Primary mathematical skills in Egypt and England

Khalid, Zeinab Ahmed Abd El Ghan y

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**Primary arithmetical curriculum framework for 1916**

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counting until 9.</td>
<td>Multiplication table to 9 x 9.</td>
<td>Simple division provided that the numbers to 10, 11, 12.</td>
</tr>
<tr>
<td>Mental addition not exceeding 9.</td>
<td>Reading, writing, provided that the divisor not more than 9, simple.</td>
<td></td>
</tr>
<tr>
<td>Subtraction not exceeding 9, reading 10000.</td>
<td>Division, provided division on numbers more than 9, simple.</td>
<td></td>
</tr>
<tr>
<td>Division of number into equal parts from 2-9, writing, reading numbers to 100. The four rules in money, simple multiplication and simple division provided that the multiplier not more than 99.</td>
<td>Division, provided division on multiplication by 100, 20, 50, to 90, and its double-times. Simple multiplication by 10, 20, 30, to 90.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Exercises of the four rules in subtraction, money, weight, and division, the simple fractions.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Fourth year**

Addition, subt. multiplication, and division of the simple decimals Egyptian money, weights, measurements. Transfer from one units to another. The four rules in it. Transfer English pound to Egyptian money. *Meter as Egyptian measurement, Kilogram and its relationship to Oka. The area of square, rectangle, triangle, and parallelogram. The cubic Meter, Litre, exercises on measurements at home*
**APPENDIX (II)**

**Primary arithmetical curriculum framework for 1925**

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>All the simple operations which on the numbers from 1 to 50 such as measurements, comparison, ratio, fraction going through the following order of difficulty. Place value-identifying for example the value of the 4 in 43 and the 3 in 43 as 4 tens and 3 units. Practice the operations of addition and subtraction. Knowing half of simple numbers, small and large numbers. Simple Ration. Meaning of zero.</td>
<td>Counting the numbers up to 200 and explanation of the previous work with tools such as the meter rule and scales. Addition, divisions and its through the vertically and signs. Division. value-identifying collecting tens. remains. for example the provided that the Subtraction value of the 4 in the result of addition was not exceeding 200. Subtraction subtrahend not exceeding 200. The General addition and subtraction. start subtraction four rules with. Knowing half of with borrowing using weight. simple numbers, unless subtraction measurements, small and large without borrowing money to. Simple. Ration. Multiplication 9x9 meaning of zero. multiply two fraction.</td>
<td>Numbers up to 1000. Counting the numbers to 200. the way of reading. Using tools such the numbers. Studying the applications of division, provided that the divisor does not exceed 12!</td>
</tr>
<tr>
<td>Fourth year</td>
<td>Fifth year</td>
<td></td>
</tr>
<tr>
<td>-----------------------------------------------------------------------------</td>
<td>----------------------------------------------------------------------------</td>
<td></td>
</tr>
<tr>
<td>Reading and writing numbers not exceeding five figures.</td>
<td>Measurements of length, weight, money and time.</td>
<td></td>
</tr>
<tr>
<td>Divisibility by 2, 3, and 5.</td>
<td>Simple proportion. $A^*B=C^*D$</td>
<td></td>
</tr>
<tr>
<td>Prime numbers and analysis of non prime number not exceeding 100.</td>
<td>Ratio in fraction form.</td>
<td></td>
</tr>
<tr>
<td>Analysis of multiples of ten up to 100.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Common multiple. Fractions distinguish between decimals and proper fractions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cancellation of fractions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Addition, multiplication, subtraction and division of fractions.</td>
<td>Percentage and its application to interest, profit, and lost. Simple</td>
<td></td>
</tr>
<tr>
<td>Changing decimals to fractions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Changing decimals to common fractions and converse.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Properties of square, triangle and their areas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Properties of known geometrical shapes and their area, such as circle,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geometry, triangle, and practical applications.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX (III)

**Primary arithmetical curriculum framework for 1930**

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counting from 1-100.</td>
<td>Reading and writing to 1000.</td>
<td>Reading and writing to million.</td>
</tr>
<tr>
<td>Reading, writing to 1000.</td>
<td>Mental addition and subtraction. Simple exercises.</td>
<td>Multiplication of a one figure number.</td>
</tr>
<tr>
<td>9. Reading and writing to 1000.</td>
<td>Subtraction.</td>
<td>Multiplication to 12x12. Exercises</td>
</tr>
<tr>
<td>8. Mental addition and subtraction. Simple exercises.</td>
<td>Multiplication of two numbers not exceeding 1000.</td>
<td>Multiplication:</td>
</tr>
<tr>
<td>7. Oral and written exercises on addition and subtraction.</td>
<td>Multiplying numbers by 10, 20, 30, to 90. Simple division by numbers less than 1000.</td>
<td></td>
</tr>
<tr>
<td>6. Reading and writing to 1000.</td>
<td>Egyptian money.</td>
<td>Long division:</td>
</tr>
<tr>
<td>5. Mental addition and subtraction. Simple exercises.</td>
<td>Multiplication of numbers less than 100.</td>
<td>Four rules</td>
</tr>
<tr>
<td>2. Division by factors.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fourth year</td>
<td>Fifth year</td>
<td></td>
</tr>
<tr>
<td>-------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Prime factors. Divisors.</td>
<td>Changing measurements from one system to another. e.g. French money into Egyptian money.</td>
<td></td>
</tr>
<tr>
<td>Common multiples and their calculation. Fractions.</td>
<td>Egyptian and French weights</td>
<td></td>
</tr>
<tr>
<td>proper fraction. The four rules with fractions.</td>
<td>into others. Fedan as unit to</td>
<td></td>
</tr>
<tr>
<td>Decimal fractions. Reading</td>
<td>measure agricultural land and</td>
<td></td>
</tr>
<tr>
<td>decimal fractions. The four rules with decimal fractions</td>
<td>interest. Simple interest.</td>
<td></td>
</tr>
<tr>
<td>Exercises on Egyptian,</td>
<td>General exercises related to</td>
<td></td>
</tr>
<tr>
<td>English and French measurements.</td>
<td>commercial; industrial and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>agricultural affairs.</td>
<td></td>
</tr>
</tbody>
</table>

**Primary geometrical curriculum framework for 1930**

<table>
<thead>
<tr>
<th>Fourth year</th>
<th>Fifth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Simple geometry in</td>
<td>Simple geometry in</td>
</tr>
<tr>
<td>Fourth year</td>
<td>Fifth year</td>
</tr>
<tr>
<td>Triangle, square, rectangle, regular. Constructing parallelogram. Circles area, quadrilaterals. The area of centre, diameter, radius and triangle, square, rectangle, perimeter. Intersection of parallelogram and circle.</td>
<td>Polygon (regular, non regular). Constructing parallelogram and circle.</td>
</tr>
<tr>
<td>of parallel lines.</td>
<td>lands measurements etc.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### APPENDIX (IV)

**Primary arithmetical curriculum framework for 1937**

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Counting objects to 9.</td>
<td>Measurements exercises. Reading to 9.</td>
<td>Simple division,</td>
</tr>
<tr>
<td>Writing and reading to 9.</td>
<td></td>
<td>Simple long</td>
</tr>
<tr>
<td>Addition of numbers sum up to 9.</td>
<td></td>
<td>Simple multiplication and division on</td>
</tr>
<tr>
<td>Subtraction.</td>
<td>4 figures.</td>
<td>numbers exceeding</td>
</tr>
<tr>
<td>Measuring small length by hand, and without</td>
<td>Subtraction with tables up to 12x12</td>
<td></td>
</tr>
<tr>
<td>making comparisons</td>
<td>Multiplication</td>
<td></td>
</tr>
<tr>
<td>1 as half of 2, and tables to 9x9.</td>
<td>12. Multiplication</td>
<td></td>
</tr>
<tr>
<td>2 as the double of numbers not exceeding two</td>
<td>12, simple</td>
<td></td>
</tr>
<tr>
<td>Simple fractions</td>
<td>Six figure numbers by division to</td>
<td></td>
</tr>
<tr>
<td>Studying the number one figure and by million. Simple</td>
<td></td>
<td></td>
</tr>
<tr>
<td>to 200. Counting and writing to 100. and 1000. multiplication and</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Counting twos, up to 90. Simple and 1000, 10000, etc</td>
<td></td>
<td></td>
</tr>
<tr>
<td>fives, and tens.</td>
<td>Division by Time measurements</td>
<td></td>
</tr>
<tr>
<td>Deduction of numbers not Exercises related</td>
<td></td>
<td></td>
</tr>
<tr>
<td>multiplication exceeding 5. An to home life.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>table for 2, 5, and Egyptian pound and Common multiple.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Adding numbers parts.</td>
<td>Fractions. The</td>
<td></td>
</tr>
<tr>
<td>not exceeding two figures with no carrying.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Subtraction of numbers not exceeding two figures and without borrowing. Addition</td>
<td></td>
<td></td>
</tr>
<tr>
<td>of numbers not exceeding two figures with</td>
<td></td>
<td></td>
</tr>
<tr>
<td>carrying.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Fourth year**

<table>
<thead>
<tr>
<th>Fourth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Decimal fraction. The four rules with decimal fractions.</td>
</tr>
<tr>
<td>Egyptian measurements and the four rules with weights, years and months. Proportional numbers. Application of proportion on area of land such as Fedan, kirat, and sahm. Percentages. Area of square, rectangle, triangle.</td>
</tr>
<tr>
<td>Exercises.</td>
</tr>
</tbody>
</table>
Practical geometry and worksheet for framework in 1937

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
<th>Fourth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hand work</td>
<td>Hand work:</td>
<td>Practical</td>
<td>Hand work and</td>
</tr>
<tr>
<td>activities.</td>
<td>Plasticine</td>
<td>geometry and</td>
<td>Hand work and</td>
</tr>
<tr>
<td>1-Dry and</td>
<td>modelling of</td>
<td>geometry.</td>
<td>Hand work and</td>
</tr>
<tr>
<td>wet sand.</td>
<td>fruits and</td>
<td>using natural</td>
<td>Hand work and</td>
</tr>
<tr>
<td>2-Plasticine</td>
<td>vegetables.</td>
<td>materials from</td>
<td>Hand work and</td>
</tr>
<tr>
<td>3-Coloured</td>
<td>Tell story</td>
<td>objects to aid</td>
<td>Hand work and</td>
</tr>
<tr>
<td>paper.</td>
<td>with</td>
<td>the environment</td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>models.</td>
<td>-ments</td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>Coloured</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>paper:</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>Geometrical</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>shapes.</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>Decorative</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>patterns.</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>Expressing</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>stories. Free</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>activity: toys</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>etc.</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>Graphs. Free</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>sand and</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>plasticine to</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>make models of</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>useful things</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>in the</td>
<td></td>
<td>Hand work and</td>
</tr>
<tr>
<td></td>
<td>environment.</td>
<td></td>
<td>Hand work and</td>
</tr>
</tbody>
</table>
APPENDIX (V)
The differences in Obligatory schools are given for 1937

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>The same as elementary school scheme.</td>
<td>The same as elementary school scheme with one difference omitting the Egyptian pound and its parts.</td>
<td>Adding Egyptian pound and its parts. Time and its parts.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analysis of elementary factors and common multiples.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fraction. Meaning of fraction and the four rules on proper fractions.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Fourth year</th>
<th>Fifth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>The straight line. Curves, acute obtuse reflex angles.</td>
<td>Graphical scale. Simple decimal fraction. The four rules with decimal fractions. The area of figures. Measurements by square, rectangle and triangle. Weight</td>
</tr>
<tr>
<td>Multiplication and division of numbers of more than two figures. Measurements by ruler and ribbon. Time and weight measurements. Surface shapes. Triangle, square, and Zraa, Kasaba, Fadan rectangle, circle. Types and analysis of numbers into land. Year; the four rules on factors. The lowest common multiple. Fractions. The four rules on fractions. Percentage, interest.</td>
<td></td>
</tr>
</tbody>
</table>
**APPENDIX (VI)**

**Primary arithmetical curriculum framework for 1947**

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Studying, reading and writing numbers</td>
<td>Numbers 1-100 with explanation of the place values of numbers</td>
<td>Numbers 1-100 with explanation of the place values of numbers</td>
</tr>
<tr>
<td>Studying numbers to 10</td>
<td>Comparison, ratio and fractions</td>
<td>Studying numbers to 10</td>
</tr>
<tr>
<td>Studying numbers to 20</td>
<td>Counting to 100</td>
<td>Studying numbers to 20</td>
</tr>
<tr>
<td>Measuring lengths</td>
<td>Vertical and horizontal addition of numbers with answer not exceeding two figures</td>
<td>Vertical and horizontal addition of numbers with answer not exceeding two figures</td>
</tr>
<tr>
<td>by hand, foot, etc.</td>
<td>Writing to 200.</td>
<td>Writing to 200.</td>
</tr>
<tr>
<td>Driving numbers to 20</td>
<td>Subtraction of numbers not exceeding two figures</td>
<td>Subtraction of numbers not exceeding two figures</td>
</tr>
<tr>
<td>Counting to 100</td>
<td>Counting to 100</td>
<td>Counting to 100</td>
</tr>
<tr>
<td>in twos, threes,</td>
<td>Subtraction</td>
<td>Subtraction</td>
</tr>
<tr>
<td>and fives. Vertical addition of numbers without borrowing three numbers.</td>
<td>Exercises on addition of numbers with borrowing</td>
<td>Exercises on addition of numbers with borrowing</td>
</tr>
<tr>
<td>with answer not exceeding two figures</td>
<td>from the tens and hundreds and 100.</td>
<td>from the tens and hundreds and 100.</td>
</tr>
<tr>
<td>Vertical subtraction of numbers not exceeding two figures</td>
<td>Writing to 1000.</td>
<td>Writing to 1000.</td>
</tr>
<tr>
<td>Horizontal subtraction of numbers not exceeding two figures</td>
<td>Table 10x15.</td>
<td>Table 10x15.</td>
</tr>
<tr>
<td>Oral addition of numbers without borrowing three numbers.</td>
<td>Addition provided in groups</td>
<td>Addition provided in groups</td>
</tr>
<tr>
<td>Exercises on counting from 0 to 100.</td>
<td>Multiplication</td>
<td>Multiplication</td>
</tr>
<tr>
<td>Multiplication table</td>
<td>Exercise provided</td>
<td>Exercise provided</td>
</tr>
<tr>
<td>One figure numbers by and subtraction of one figure numbers. Reading three figure numbers. Counting and writing of numbers from 0 to 50. Numbers not exceeding 1000.</td>
<td>Multiplying by two figure numbers multiplying by 10.</td>
<td>Multiplying by two figure numbers multiplying by 10.</td>
</tr>
<tr>
<td>Simple addition. 20, 30, 100, 200.</td>
<td>Subtraction and addition exercises three figure numbers.</td>
<td>Subtraction and addition exercises three figure numbers.</td>
</tr>
<tr>
<td>Division exercises three figure numbers.</td>
<td>Not exceeding numbers by one three figure numbers.</td>
<td>Not exceeding numbers by one three figure numbers.</td>
</tr>
<tr>
<td>Egyptian money. Simple division of (Kersh, Malleem, Geny).</td>
<td>Simple division of two figure numbers by one figure numbers.</td>
<td>Simple division of two figure numbers by one figure numbers.</td>
</tr>
<tr>
<td>Reading &amp; writing</td>
<td>of fractions.</td>
<td>of fractions.</td>
</tr>
</tbody>
</table>
Following APPENDIX (VI)

**Primary arithmetical curriculum framework for 1947**

<table>
<thead>
<tr>
<th>Fourth year</th>
<th>Fifth year</th>
<th>Sixth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Division.</td>
<td>Long division of integral and decimal number.</td>
<td>Proportional division.</td>
</tr>
<tr>
<td>Multiplication of decimal number by integral number.</td>
<td></td>
<td>Percentage. Time measurements.</td>
</tr>
<tr>
<td>Table up to 12x12.</td>
<td></td>
<td>Simple division by Divisibility by 10. Simple interest.</td>
</tr>
<tr>
<td>Simple division by numbers not exceeding 12.</td>
<td></td>
<td>Prime numbers from 1-50. Egyptian area.</td>
</tr>
<tr>
<td>Division by 20, ...</td>
<td></td>
<td>Analysis of non prime numbers from 1-50 into two factors. Lowest common multiple of two or more numbers.</td>
</tr>
<tr>
<td>Writing and reading 1-50 into two factors.</td>
<td></td>
<td>Prime numbers from 1-50 into two factors. Decimal fractions. The place value of numbers. Addition and subtraction of decimal fractions.</td>
</tr>
<tr>
<td>Multiplication and division of proportional number by one figure numbers.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fifth year</td>
<td>Sixth year</td>
<td></td>
</tr>
<tr>
<td>------------</td>
<td>------------</td>
<td></td>
</tr>
<tr>
<td>Meaning of straight line and curve. Using ruler to measure lines. Drawing straight lines of a given length. Naming straight line e.g. AB.</td>
<td>The area of right angled triangle. The height of triangle. Area of triangle by its base and height. Constructing circles given their radius.</td>
<td></td>
</tr>
<tr>
<td>Recognition of the kind of triangle by its angles and lengths of sides.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

APPENDIX (VI)

In 1949, the arithmetical and practical geometry framework curriculum scheme was the same as for 1947.
<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-Understanding the value of number practically.</td>
<td>Studying three figures numbers place value of numbers. Extending with arithmetical examples.</td>
<td>Deducting multiplication tables</td>
</tr>
<tr>
<td>2-Training pupil to make different groups practically not exceeding 10.</td>
<td>Understanding the place value of numbers. Extending with arithmetical examples.</td>
<td>Using the multiplication sign (x), instead of repeating</td>
</tr>
<tr>
<td>3-Train pupil to related to practical life-weight, money,</td>
<td>Form numerical groups practically in order to understand multiplication tables.</td>
<td>Practising of mental arithmetic problems and application to common practical aspects such as how many 5 in 20, in order to facilitate numbers with figures. Using understanding the meaning of division and figures. Practical exercises on weight, measurements and time, using this to increase practice of multiplication.</td>
</tr>
</tbody>
</table>

| 4-Common exercises which relate to the children's needs. | Mental arithmetic tables. Extension of addition and subtraction exercises using numbers with answer not exceeding 3-4 figures. Practical exercises on weight, measurements and time, using this to increase practice of multiplication. Tables, multiply by 10, 20,..., 100 and simple division. |
| 5-Simple addition and subtraction. | Mental arithmetic by one figure and subtraction. | Numbers and use of weights, money, measurements, division and which are related to the children's needs. |
| 6-Addition of numbers with sum not exceeding 10. | Common practical tables. Extension of addition and subtraction. | Exercises using numbers with figures. Practical exercises on weight, measurements and time, using this to increase practice of multiplication. Tables, multiply by 10, 20,..., 100 and simple division. |
Multiplication and division of two or three figure numbers by one figure numbers.

Understanding the meaning of fraction and its value practically.

Using these fractions in simple mental exercises.

Practising in writing and reading fractions.
# APPENDIX (VII)

## Primary arithmetical curriculum framework for 1953

<table>
<thead>
<tr>
<th>Fourth year</th>
<th>Fifth year</th>
<th>Sixth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using simple division with one figure numbers.</td>
<td>Long division of integral numbers with and without remainders. Long division of an integral or decimal number by a ratio. Its meaning and its use.</td>
<td>Ratio and proportional division.</td>
</tr>
<tr>
<td>Understanding the meaning of the division sign and practising its use.</td>
<td>Solving exercises in integral numbers, involving multiplication of exercises.</td>
<td>Graphical scale.</td>
</tr>
<tr>
<td>Using realistic two or three figure numbers with fractions; sufficient practice on practising more starting with the meaning of advanced operations in integral numbers.</td>
<td>Extension of fractional denominators.</td>
<td>Proportional numbers.</td>
</tr>
<tr>
<td>Addition and subtraction on proportional division and finding percentage.</td>
<td>Writing and reading decimal fractions.</td>
<td>Simple interest.</td>
</tr>
<tr>
<td>The meaning, value, writing and reading decimal fractions.</td>
<td>Changing proper one figure whole number.</td>
<td>Changing proper one figure whole number.</td>
</tr>
<tr>
<td>Changing from one measurement, money, problems.</td>
<td>and weight units.</td>
<td>and weight units.</td>
</tr>
<tr>
<td>Measurements of proportional measurements.</td>
<td></td>
<td>Multiplication and division for measurements.</td>
</tr>
<tr>
<td>Of measurements of parallelepiped.</td>
<td></td>
<td>French weights.</td>
</tr>
<tr>
<td>And weight in volume.</td>
<td></td>
<td>Multiplication and division of units into litre.</td>
</tr>
<tr>
<td>Proportional number.</td>
<td></td>
<td>Proportional number.</td>
</tr>
</tbody>
</table>

## Ratio and proportional division.

- **Relationship**
- **Methods of writing**
- **Egyptian area.**
- **Volumes of cube**
- **Volume**
- **French weights.**
- **Changing Egyptian unit**
- **Units into litre**
Practical geometry in fifth year

Drawing and measuring straight line, circle, square, parallel lines, rectangle, triangle

Finding the area of right angled triangle by knowing the two sides which contain the right angle. The area of right angled triangle by its side lengths. The type of triangle related to its angles and sides.
<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six lessons in a</td>
<td>Six lessons in a</td>
<td>Six lessons in a</td>
</tr>
<tr>
<td>week.</td>
<td>week.</td>
<td>week.</td>
</tr>
</tbody>
</table>

1. Identifying and studying numbers with using concrete objects from practical life.
2. Composition of number such as 204 and 303 and 501 and numbers with the all make the numbers which exceed 10.
3. Practising the addition and subtraction.
5. The place value of number of two figure numbers.
6. Simple addition of two figure numbers provided that its sum not exceeding two figure numbers.
7. Using measurement units, weight and money in appropriate occasions.

1. Continuous studies of the previous year then gradually come to the numbers which not exceeding three figure numbers with understanding the place value of numbers.
2. Increasing practical aspects such as weight, measurements, times and dealing with money and using the last units in practising or simple addition and subtraction.
3. Children learn how to know the time from 8. am to afternoon for weight.
4. Using multiplication table in a simple way such as how many five in twenty in order to facilitate understanding minutes, and division.
5. Continuous studies of the previous year provided that the production not exceeding three or four figure number and gradually exercises derive from one step to two steps using weight, measurements and Egyptian money to practising such as Egyptian pound and its units, Meter and centimetre, pound and ounce, week, day, hour, and minutes, and...
relation to increase
practising on multiplication
table and multiply and division by 10, 20, 100. 4-Make pupils practise on multiply two or three figure numbers by one figure number and so division.
5-Understanding the meaning of fraction and its value practically such as 1/2 (half of an orange) or 1/4 (quarter of an orange) and using simple mental exercises to explain and practise it.

General exercises.
<table>
<thead>
<tr>
<th>Year</th>
<th>Lessons per Week</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fourth</td>
<td>Five</td>
</tr>
<tr>
<td>Fifth</td>
<td>Five</td>
</tr>
<tr>
<td>Sixth</td>
<td>Five</td>
</tr>
</tbody>
</table>

1. Gradually, pupils come to use simple division by one figure number with understanding the sign (/).
2. Enlargements on exercises which need multiply by two or three figure numbers.
3. Exercises contain simple proper fraction by using concrete objects in order to make children understand the meaning of fraction numerator and denominator of a fraction. In addition to put fraction in a simple way.
4. Using measurements weights, etc., as it used as proportional numbers and do subtraction of different weight, length, and money.
5. Gradually, pupils moved to more advanced exercises which contained addition and subtraction of different measurements units.

1- Reviewed of last lessons with taken into consideration weight, money and measurements units and area. Then application of multiplication and division of integral or decimal numbers provided that its sum not exceeding three decimal numbers. Study begin with exercises drove from real life.
2- Using oral arithmetic to review concepts which were studied before. 3- Long division of integral or decimal numbers by an integral number provided that its sum not exceeding three decimal numbers. Study begin with exercises drove from real life.
4- Enlargements on fraction study. These studies make reading, writing, addition, and subtraction of proper fraction more understanding.
5- Gradually, pupils moved to more advanced exercises which contained addition and subtraction of different denominator fractions. Lowest common multiplication.

4- Using measurements weights, etc., as it used as proportional numbers and do subtraction of different weight, length, and money.
6. Making tables to compare different measurements of weight, length, and money. General exercises to measure pupils' abilities doing arithmetical operations. Using meter studying the form. Using meter studying the form. Using meter studying the form.
7. Calculating simple interest.
8. Avoiding complex exercises.
understanding decimal fractions and its meaning and value, then using addition and subtraction on decimal numbers and also multiplied and divided it by one figure number.

More concerning to make practical exercises which are involved in real life in order to make them more comprehensible by children.

previous studies then moved to study transferation from one fraction into another with also multiplied and relating that by divided it by one weights and figure number. measurements and 5-More concerning money units. Using to make practical English French exercises which are measurements and involved in real transfer them into life in order to Egyptian units. make them more Square, rectangle and triangle area. comprehensible by childr means.
Practical geometry in fifth year

Drawing and measuring straight lines. Drawing and measuring straight lines with a given length. Angles: measuring of angle, identifying different types of angles. Using protractor to measure angles. Drawing right angle using setsquare and ruler. Explain meaning of perpendicular lines. Constructing perpendiculars on straight lines. Dropping a perpendicular to straight lines. Finding area of square shape by dividing it into two triangles and finding the area of each one.

Practical geometry in sixth year

Revision of last year lessons in that subject. Triangle: its types constructing a triangle by knowing side length and two sides lengths and an angle. Using geometrical methods in drawing parallelogram. Finding area of any square shape by dividing it into two triangles and finding the area of each one. Circle: knowing and understanding centre, chord, perimeter, radius and diameter of a circle. Applications of graphical scale to read maps and representing statistics lots of exercises. Applications of graphical scale to relationships with practical life.
### APPENDIX (IX)

**Primary arithmetical curriculum framework for 1960**

<table>
<thead>
<tr>
<th>First year</th>
<th>Second year</th>
<th>Third year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Six lessons in a week.</td>
<td>Six lessons in a week.</td>
<td>Six lessons in a week.</td>
</tr>
</tbody>
</table>

1. **1-Sorting and classifying objects into sets.**

2. **2-Material:** a box of marbles or shells. **3-Counting the number of objects in a set.**

3. **4-Composition of numbers up to 10.**

4. **5-Addition and subtraction.** Any addition statement such as 5 + 2 = 7 occurs in a great variety of situations and can be recorded in several ways. It is called these processes and is called these processes are actions.

5. **6-Experience of varied aspects of the operations of addition, subtraction as these arise in the real situations of the classroom. It is called these processes called these processes are actions.**

---

6. **1-Extension of number knowledge to include three figure numbers.**

7. **2-Experiences leading to an understanding of the number system objects into sets.**

8. **3-Applications of the number system to the real world.** Measurement: Experiences with money, weight, and measures will continue throughout this year, experiences increasing in scope and variety. Similar experience can be planned for time. 4-Once children have acquired this facility with numbers, however, they are ready to benefit from written practice in addition and subtraction, first with tens and units and then with larger numbers as they come to extend their number of figures.
4. Begin with exercises containing one idea and are solved by one step, then gradually come to those which need two steps, as these arise in the real situations of the classroom.

5. Applications of the number system to the real world. Measurement, arithmetic, experience with money, weights and measures will continue during this year. Metric system, clock arithmetic.

6. Multiplication and division by 10, 20, 30, ..., 100.

7. Multiply two or three figure numbers by one figure numbers.

8. Understanding the meaning of division by one figure numbers.

Primary arithmetical curriculum framework for 1960

<table>
<thead>
<tr>
<th>Fourth year</th>
<th>Fifth year</th>
<th>Sixth year</th>
</tr>
</thead>
<tbody>
<tr>
<td>Five lessons in a week.</td>
<td>Five lessons in a week.</td>
<td>Five lessons in a week.</td>
</tr>
</tbody>
</table>

1-Extension of number knowledge to include multiplication of two or three figures by one figure numbers. Exercises easily of ratio to one figure numbers. 2-So far the children's knowledge of number has been mainly concerned with whole numbers (integers) which they first used to describe situations in their environment and later learned to combine in different ways according to the operation demanded when they meet the written symbols for fractions, they are experiencing for the first time, pairs of numbers used in a different way; number pairs which appear to behave differently when they meet the include fractions. 3-The child's recording of his work must be his own. 4-General revision for both cases. 5-Long division by a diagram or by written, expressed by a graph, must be according to the specific problem in hand. 6-Extension of ideas of number to include fractions. 7-Revision.

1-Extension of number knowledge to include more advanced exercises. 2-Ratio. 3-Oral arithmetic. 4-Revision by a diagram or by written, expressed by a graph, must be according to the specific problem in hand. 5-Applications of written symbols for varied aspects of percentages to fractions. They are the operations of interest, profit, loss and the real world. 6-Calculating with fractions. 7-Solid measurements e.g., the cubic of meter, decimetre, centimetre, etc...
writing fractions.

A variety of regular geometric shapes (in two colours) is often used for giving children varied opportunities for recognising the common fractions.

Simple fraction of everyday life.

Experience with money, weights and measures is important that the four operations of addition, subtraction, multiplication and division. The common units of weights and measures which normally come within the experience of young children. Applications of mathematics to relationships with practical life.

8-Extension of decimal fractions. It is important that the use of decimal fractions should arise from their use in real situations of the environment. Weights, money and measures provide varied experience in the use of simple fractions.

These varied experiences should cover the operations of addition, subtraction, multiplication and division. The common units of weights and measures which normally come within the experience of young children. Applications of mathematics to relationships with practical life.

9-Applications of the number system to the real world:

- Measurement.
- Metric system.
- On units of weights and measures. 10-Areas
- Squares and rectangles.

11-A simple idea on average.

Concrete experience of all kinds of measurements and use of money, length, weight, time. 9-Applications of mathematics to relationships with practical life.
Practical geometry for the
Fifth year

Drawing, measuring and
understanding the ideas of
1- Straight lines.
2- Angles.
3- Triangles.

1- Revision. 2- Type of
triangle by angles and
lengths of sides.
Constructing a triangle by
given two sides and one
angle in between. Then
constructing a triangle by
given one side and two
angles. 3- Constructing
parallelogram by measuring,
then finding the area of a
parallelogram and a
triangle when children
divided a parallelogram
into two equal triangles
along its diagonal.
4- The area of a triangle,
circle, centre, perimeter,
radius and diameter.
Constructing a circle with
a given radius or diameter.
Graphical scales.
Applications of the
graphical scale to the real
world.
APPENDIX (X)

School framework scheme for 1963

First year: Six lessons a week

1-Study the numbers from 1 to 100. Figures from 1 to 9. Composition of numbers from 2 to 9 with addition and subtraction. Tens. Zeros. 2-The meaning of addition and subtraction signs (+,-,=). Adding two numbers with and without carrying (The sums not exceeding two figure numbers). Subtracting two numbers with and without borrowing (The remainder not exceeding two figure numbers). 3-Money and lengths measurement. Study the relationships of an Egyptian pound units and Syrian money. Meter and centimetre. 4-Practice on doubles numbers from 1 to 5.

Second year: Six lessons a week

1-Revision. 2-Place value of three figure numbers. 3-Practice on addition and subtraction. Adding two numbers without and with carrying. Subtracting two numbers without and with borrowing (The sum or remainder not exceeding three figure numbers). 4-Metric measurements and money. Relationships of an Egyptian pound units. Relationships of a metric
system units. Weight. 5-Time. Relationships between an hour and a minute. Clock. 6-Sorting and classifying objects into groups of numbers in order to understand multiplication table. Doubles numbers from 5 to 10. Three times the numbers from 1 to 5.

Third year: Six lessons a week

1-Revision. 2-Reading and writing four figure numbers. 3-The sum of addition and subtraction not exceeding four figure numbers. 4-Multiplication. Meaning of the sign (x). Studying and practising on multiplication table. Multiple by 10, 20, ..., 100. Two or three figure numbers multiplied by one figure number. 5-Division. Meaning of the sign (/). Division as the inverse of multiplication. Simple ended division by one figure numbers. Ended division by 10, 20, ..., 100. 6-The metric system and money. Knowledge of the relationships between one unit and another. An Egyptian pound units. A Syrian money units. Meter units. Kilogram units. 7-Time: the relationships between: week and day, day and hour. Simple proportion.
Fourth year: Five lessons a week

1-Revision. 2-Extension of number knowledge to include reading and writing five or six figure numbers. 3-Multiplication. Two figure numbers multiplied by one figure numbers. Three figure numbers multiplied by one figure number. 4-Fractions. Writing and reading with understanding the meaning of numerator and denominator of a fraction. Addition and subtraction of fractions whose the same denominator. Cancelling of fractions. Meaning of improper fractions. Addition and subtraction of fractions whose different denominators. 5-Decimal fractions. Meaning, writing and reading decimal fractions. Addition and subtraction with decimal fractions. Multiply one decimal fraction by one figure integer numbers. Ended division of one integer figure numbers. 6-The metric system and money. An Egyptian pound units. A Syrian money units. Meter units. Kilogram units.

Fifth year: Five lessons a week

1-Revision. 2-Long division. Ended division of integral numbers. Non ended division of integral numbers. out of division not exceeding three decimal figures fraction. Ended division of one decimal
fraction by one integral numbers. Non ended division of one decimal fraction by one integral number (out of division not exceeding three decimal figures fraction. Proportion. Applications of the proportion to the time measurements. 3-Proper fractions. Divisibility by simple numbers. Analysis of numbers. Multiplication and division of fractions. Cancelling of fractions. Simple common multiple. Adding and subtracting fractions. Exercises. 4-Decimal fractions. Changing proper fractions into decimal. Multiplication, division and general application of decimal fractions. 5-Area. The areas and properties of a square and a rectangle. 6-Mean. 7-A simple idea of straight and curved lines. Using geometrical tools. 8-Angles. Using protractor to measure and draw angles. 9-Using geometrical tools to do: constructing the right angle by using ruler and sets square. Constructing perpendiculare on a given straight line. Dropping perpendicular to a given straight line. Drawing parallel lines by using sets square and ruler. Construction of a square with given side length. Construction of a rectangle with given two sides length. 10-Triangle. Types of triangle according to its angles and sides length. Constructing equal sides triangle with a given side. Constructing a right angled triangle with two given sides.
Constructing a triangle with three sides length. Heights of triangles.

Sixth year: Five lessons a week

1-Revision. 2-Ratio. 3-Proportion and rate. Applications of the number system to the real world: Ratio proportion and rate. Proportion meaning. Finding its dividend. Proportional division. Simple exercises. 3-Percentages. The importance of percentage. Changing ratio into percentages. Finding percentage of a certain amount. Percentage and its application to interest profit, and lose. 4-Calculating simple interest, rate, time, and principle in simple interest problems. Applications of mathematics to relationships with practical life. 5-Solids. (a) The volume and properties of a cube. (b) Volume measurements (cubic meter, decimetre, and centimetre). Applications and simple exercises to relationships with practical life. 6-Parallelogram. Concept, properties and area of a parallelogram. 7-Triangle. Constructing a triangle with given two sides and angle in between. Constructing a triangle with a given side and two angles. The area of a triangle (= half of a parallelogram whose the same base and height). Area of any quadrilateral shape (by dividing it into two triangles). 8-Circle:
perimeter, centre, diameter and radius of a circle. Construction of a circle with a given its radius using compass. Made some simple circular decorations. Drawing some regular shape inside a circle. 9-Graphical scale. Its importance and applications to relationships with practical life using block graphs, etc....
APPENDIX (XI)

School framework scheme for 1965

First year: Five lessons a week

(i) Studying numbers from 1 to 100. This study included: a- Numbers from 1 to 9. B- Composition of numbers from 2 to 9. C- Tens. D- Two figure numbers. F- zero.

(ii) Addition and subtraction: a- Meaning of signs (+, -, =). B- Adding without carrying. C- Subtracting without borrowing. D- The sum or remainder of adding or subtracting two numbers with carrying or borrowing not exceeding two figure numbers.

(iii) Number relationships Using money units.

(iv) Hundreds Using money units and metric system.

(v) Practice on double numbers from 1 to 10.

Second year: Five lessons a week

(i) Revision. (ii) Place value of three or four figure numbers. Using an Egyptian pound units. Metric system units. (iii) Addition and subtraction. Adding without and with carrying. Subtract without and with borrowing (The sum or remainder in both
cases not exceeding four figure numbers). (iv) Time. Relationships on time units. Reading clock. (v) Sorting and classifying objects into groups of numbers in order to understand multiplication table. Multiplication table of 5. General applications.

Third year: Five lessons a week

(i) Revision. (ii) Extension of number knowledge to include reading and writing five or six figure numbers. (iii) The sum or remainder of addition or subtraction not exceeding five or six figure numbers. (iv) Multiplication. Meaning the sign (x). Multiplication table. Multiplication by 10, 20, ..., 100. Multiply two or three figure numbers by one figure numbers followed by two figure numbers then by three figure numbers. (v) Division. Meaning of the sign (/). Division as the inverse of multiplication. Simple division by 10, 20, ..., 100. Divisibility by 2, 3, 5, 11. (vi) Practice on multiplication and division by using an Egyptian pound units, metric system units, time units. (vii) Fractions. Meaning, reading, writing, addition and subtraction of proper fraction. Decimal fractions. Meaning, reading, writing, addition and subtraction of decimal fractions. Drawing and measuring straight lines.
Fourth year: Five lessons a week


Fifth year: Five lessons a week

(i) Revision. (ii) Extension of division to include ended division of integral and decimal numbers. (iii) Proportion. The four rules with proportion. (iv) Decimal fractions. Changing proper fractions into decimal fractions and converse. Multiplication, division, and applications of decimal fractions. (v) Mean: Exercises from real life. (vi) Areas: The

Sixth year: Five lessons a week

(i) Revision. (ii) Approximation to nearest unit, ten, hundred and not exceeding three figure numbers with decimal fraction. (iii) Ratio, proportion and rate. Meaning and writing the ratio and proportion. Applications of proportion and rate to the real life. (iv) Percentages: Meaning of percentage. Changing a ratio into a percentage. Finding a percentage of a certain amount. Applications to include interest, taxis, lose, etc,... (v) Calculating interest rate, time and principle in simple interest problems. (vi) Areas: Areas of a parallelogram and a triangle. (vii) Geometry. Revision. Using geometrical tools. Constructing a circle with a given radius. Constructing chords of a circle. Constructing a triangle by its three sides lengths. Constructing equal sides triangle (Equilateral) by its side.
Constructing an equal two sides triangle (Isosceles) by one side and two angles.
APPENDIX (XII)

School framework scheme for 1967

First year:


Second year:

(i) Revision. (ii) Extension of numbers to three and four figure numbers. Place value. Using an Egyptian pound units, and metric system. (iii) Addition and subtraction. Adding and subtracting two numbers without and with carrying and borrowing. (The sum and difference not exceeding four figure numbers). (iv) Time. (v) Introduction to multiplication table up to 5.
Third year:

(i) Revision. (ii) Reading and writing five and six figure numbers. (iii) Addition and subtraction. The sum and difference not exceeding five or six figure numbers. (iv) Multiplication. Meaning of the sign \((\times)\). Multiplication by 10, 20, ...., 100. Multiply two or three figure numbers by one figure, two figures, and three figure numbers. (v) Division. Meaning of \((/\)) Division by by 10, 20, 30, ...., 100. Divisibility by 2, 3, 5, and 11. (vi) Using an Egyptian pound units, time and metric system. (vii) Simple fractions. Decimal fractions. Addition and subtraction of fractions with equal denominators. (viii) Drawing and measuring straight lines with given their lengths.

Fourth year:

of all fractions. Long division by two figure numbers. (iv) Geometry. Angle. Identifying, drawing and measuring angles by using protractor. Constructing a triangle with given two sides and an angle in between.

**Fifth year:**


**Sixth year:**

(i) Revision. (ii) Approximation to a unit, ten, hundred and three decimal figures. (iii) Ratio,
APPENDIX (XIII)

School framework scheme for 1971

First year: Six lessons a week

(i) Studying numbers from 1 to 9. Composition of numbers from 2 to 9. Meaning of sign (+, -, =).
(ii) Studying numbers from 10 to 100. Tens. Two figure numbers. Zero. Place value. Adding two numbers without and with carrying. Subtracting two numbers without and with borrowing.
(iii) Studying hundreds to 900.
(iv) Double numbers from 1 to 10.

Second year: Six lessons a week

(i) Revision. (ii) Extension of numbers to three and four figures. Place value. Using an Egyptian pound units and metric system units. Practicing on addition and subtraction. (iii) Time. Tell the time. Full practical knowledge and experience of seconds, minutes and hours. (iv) Multiplication. Meaning of multiplication sign (x). Full practical knowledge and experience of multiplication table to table 5.
Third year: Six lessons a week

(i) Revision. (ii) Extension of numbers to five and six figures or more. (iii) Practicing on addition and subtraction. (iv) Multiplication. Multiplication table to table 10. Multiplication by 10, 20,..., 100. Multiply two or three figure numbers by one figure, two figures and three figure numbers exclusively. (v) Division. Meaning of division sign (/). Simple division by 10, 20, 30, ..., 100. Simple division by one figure. Practicing on multiplication and division. Using an Egyptian pound units, metric system units and time.

Fourth year: Six lessons a week


Fifth year: Six lessons a week

lines. Drawing a square by its side. Drawing a rectangle by its two sides. Drawing a right angled triangle by two right angle sides.

Sixth year: Six lessons a week

APPENDIX (XIV)

A content analysis of the contemporary school scheme books for 1983

The first primary school book (Traditional mathematics)

CONTENT

Numbers.

CONCEPTS ARE INVOLVED


FACTS

The relationships of an Egyptian pound units.

THE EXPECTED SKILLS

(i) Reading, writing and recognition of numbers from 1 to 9.  (ii) Operate the ascending and descending order on the above mentioned numbers.  (iii) Operate addition without and with carrying.  (iv) Operate subtraction without and with borrowing using the line
of numbers.

CONTENT
Knowledge of solid shapes.

CONCEPTS ARE INVOLVED
(iv) Sphere.  (v) Pyramid.  (vi) The straight line.

FACTS
The relationships among the metric system.

THE EXPECTED SKILLS
(i) The understanding of 3'D geometrical solids. 
(ii) Measuring a straight line by ruler.
The second primary school book (Traditional mathematics)

CONTENT

Numbers.

CONCEPTS ARE INVOLVED

(i) Three figure numbers. (ii) Four figure numbers. (iii) Even numbers. (iv) Odd numbers.

FACTS

(i) The relationships of an Egyptian pound units. (ii) The relationships of the metric system. (iii) Full knowledge of the relationship between hours and minutes. (iv) Even number +, - even number = even number. (v) Odd number +, -, odd number = even number.

THE EXPECTED SKILLS

(i) Reading and writing three figure numbers. (ii) Place value in three figure numbers. (iii) Addition and subtraction of three figure numbers. (iv) Five times table, number bonds. (v) Telling the time in a quarter hour. (vi) Reading and writing four figure numbers. (vii) Addition and subtraction of four figure numbers.
Surfaces and solid shapes.

CONCEPTS ARE INVOLVED
(i) The surface. (ii) The plane surface (iii) The curved surface.

FACTS
The relationships between Kilometre, meter and centimetre.

THE EXPECTED SKILLS
Volume and surface area of solid shapes, which were studied in the first year. Practical experience of circles, squares, rectangles, triangles, especially as used in pattern work.
A content analysis of the third year primary school book (Traditional mathematics)

CONTENT

Numbers

CONCEPTS ARE INVOLVED

(i) Five figure numbers. (ii) Six figure numbers.

FACTS

(i) Numbers have multiplied by 10 and one figure number. Zero (0). (ii) Numbers multiplied by 100, have the unit and tens figures. (iii) The relationships between year and month. (iv) Multiplication table facts up to 10 x 10.

THE EXPECTED SKILLS

(i) Reading, writing and the operations of addition and subtraction on the five and six figure numbers. (ii) Multiplication and division up to 10 times table. (iii) Multiplication of three figure numbers.

CONTENT

Geometry.

CONCEPTS ARE INVOLVED

Perimeters
FACTS

(i) Perimeter of a square = side length x 4. (ii) Perimeter of a rectangle = (length + width) x 2.

THE EXPECTED SKILLS

(i) Calculation of perimeter of squares and rectangles. (ii) Drawing straight lines from length measurements (of a given length). (iii) Measuring straight lines of given lengths.
A content analysis of the fourth year primary school book (Traditional mathematics)

CONTENT
Numbers

CONCEPTS ARE INVOLVED

FACTS
(i) Tests for divisibility by 2, 5 and 3. (ii) The four rules with proper and decimal fractions.

THE EXPECTED SKILLS
(i) Cancelling fractions. (ii) The four rules with proper and decimal fractions along with full understanding of the meaning.

CONTENT
Geometry

CONCEPTS ARE INVOLVED
FACTS

(i) The angle sum of a triangle = 180 degree.

THE EXPECTED SKILLS

(i) Construction of an angle equal to a given angle using compass and ruler. (ii) Measuring angles with protractor. (iii) Constructing triangles knowing two sides and angle between them. (iv) Recognizing the type of a triangle by its angles. (v) Recognizing the type of a triangle by lengths sides.
A content analysis of the fifth year primary school book (Traditional mathematics)

CONTENT

Numbers

THE CONCEPTS ARE INVOLVED
(i) Approximations. (ii) The mean. (iii) The positive rational numbers.

FACTS
(i) The mean of a set of quantities is total of the set of quantities divided by number of quantities. (ii) Total of a set of quantities = mean x quantities of numbers.

THE EXPECTED SKILLS
(i) Approximation to nearest whole, ten hundred, thousand and to one, two and three decimal places. (ii) Operating the four rules with two, three and four figure numbers. (iii) Full practical knowledge and experience of mean. (iv) Finding the total of a set of quantities given its mean.

CONTENT

Geometry
THE CONCEPTS ARE INVOLVED

(i) Area. (ii) Perpendicular lines. (iii) Parallel lines.

FACTS

(i) Area of a square = length side \times \text{itself}. (ii) Area of rectangle = length \times \text{width}. (iii) The relationship between square units e.g square cm, sq. Meter, sq. Millimetre. (iv) The relationships between an Egyptian land measurements e.g Fidan, Kirate, Sahem, Kasaba and meter.

THE EXPECTED SKILLS

(i) Constructing perpendiculars on straight lines using sets square and ruler. (ii) Dropping perpendiculars to straight lines using setsquare and ruler. (iii) Drawing parallel lines using setsquare and ruler. (iv) Drawing squares and rectangles using rulers measuring setsquare or protractor. (v) Calculation of the area of squares and rectangles. (vi) Conversion of area units, cm square, dm square, meter square.
A content analysis of the sixth year primary school book (Traditional mathematics)

CONTENT

Numbers

THE CONCEPTS ARE INVOLVED

(i) Ratio (ii) Proportion. (iii) Percentage.

FACTS

(i) Graphical scale = the length on graph divided by real length. (ii) Simple interest = principle x rate x years.

THE EXPECTED SKILLS

(i) Finding the scale of graph, length in the graph and real length. (ii) Conversion of proper fractions to percentage and vice versa. (iii) Conversion of percentage to decimals. (iv) Full practical knowledge and experience of percentage in taxes, sales and purchases etc.... (v) Calculating interest, rate, time and principle in simple interest problems. (vi) Tabulating graphical data.

CONTENT

Geometry
THE CONCEPTS ARE INVOLVED

(i) Parallelogram. (iii) Regular shapes. (iii) Centre, diameter and chord of a circle. (iv) Intersection of lines.

FACTS

(i) The perimeter of a parallelogram = (total of the two adjacent sides) x 2. (ii) The area of a parallelogram = base x heigth. (iii) The area of a triangle = half of the base x height. (iv) The volume of a cube = side x side x side. (v) The parallelepiped volume = length x width x height = area of base x height. (vi) The surface area of sides = base perimeter x height. (vii) The total area = the surface area of sides + the two base area.

THE EXPECTED SKILLS

(i) Constructing a triangle by knowing side length and two angles. (ii) Constructing a triangle by given three sides lengths. (iii) Drawing a circle by knowing its radius. (iv) Drawing a chord with a given length inside circle. (v) Constructing a parallelogram by measuring. (vi) Constructing regular shapes inside circles. (vii) To be able to explain and describe perpendiculars, reflex angles and rectangles etc...
Secondly a content analysis for primary modern mathematics

A content analysis of the first primary school book (modern mathematics)

CONTENT

Sets

THE CONCEPTS ARE INVOLVED

(i) Set  (ii) Element.  (iii) Membership.  (iv) Subset.  (v) Breakdown (into classes, categories, etc...). (vi) Equivalent sets.  (vii) The empty set.  (viii) Symmetry.

THE EXPECTED SKILLS

(i) The realization of common characteristic of set element.  (ii) Classification of sets.  (iii) Breakdown sets into subsets.  (iv) Practicing to realize and write the number of set element.

CONTENT

Numbers

THE CONCEPTS ARE INVOLVED

(i) Number from 1 to 9.  (ii) Zero.  (iii) Addition.  (iv) Equivalent.  (v) Ascending order.  (vi)
Descending order. (vii) Subtraction. (viii) Substitution. (ix) Multiplication. (x) Division. (xi) Two figure numbers. (xii) The place value of number.

FACTS
(i) The relationships among the Egyptian pound units e.g. guinea, kerch and ten etc.... (ii) The composition of numbers.

THE EXPECTED SKILLS
(i) Reading and writing numbers from 1 to 9. (ii) Operate ascending and descending order. (iii) Operate addition and subtraction by using numbers's line. (iv) Commutative and associative properties of addition. (v) Understanding place value. (vi) Composition of numbers e.g. \( 5 = 4+1 = 3+2 \) etc. (vii) Using addition table. (viii) Multiplication of numbers under ten. (ix) Adding two figure numbers without and with carrying. Subtracting two figure numbers without and with borrowing.

CONTENT
Equations and inequalities.

CONCEPTS ARE INVOLVED
(i) Unknown variable. (ii) Equation. (iii) The
linear equation with one unknown. (iv) Inequalities e.g. $5 > 2$. (v) Smaller than $<$. (vi) Bigger than $>$. (vii) Inequalities with one unknown e.g. $x + 3 > 7$.

THE EXPECTED SKILLS

(i) Solving the linear equation with one unknown. 
(ii) Solving inequalities with one unknown e.g. $x + 2 < 9$.

CONTENT

Geometry

CONCEPTS ARE INVOLVED


FACTS

(i) The relationships between meter and centimetre.

THE EXPECTED SKILLS

(i) Properties of and relationships between plane shapes and solids. (ii) Drawing and identifying straight lines. (iii) The understanding of 3-D geometrical solids.
A content analysis of the second primary school book
(modern mathematics)

CONTENT
Numbers

THE CONCEPTS ARE INVOLVED
(i) The three figure numbers. (ii) Even number.
(iii) Odd number. (iv) Four figure numbers.

FACTS
(i) Multiplication tables. (ii) Tests for
divisibility by 2, 3, 5, and 10. (ii) Full practical
knowledge and experience of relationships between cm,
dm, meter.

THE EXPECTED SKILLS
(i) Reading and writing three figure numbers. (ii)
Addition and subtraction of three figure numbers.
(iii) Reading and writing four figure numbers. (iv)
Addition and subtraction of four figures. (v)
Multiplication. Using square numbers and number
line.

CONTENT
Geometry

CONCEPTS ARE INVOLVED

FACTS
The relationships between kilometre and meter.

THE EXPECTED SKILLS
(i) Full practical knowledge of surfaces for 3-D solids e.g. a cube has 6 square surfaces. (ii) Cube numbers. (iii) Volume. (iv) Measuring lines with a ruler. (v) Construction of perpendiculars (line at right angle). (vi) Construction of parallel lines. (vii) Practical experience of rectangle, triangle and parallelogram as used in pattern work. (viii) Drawing circle with a given radius.
A content analysis of the third primary school book  
(modern mathematics)

CONTENT

Sets

THE CONCEPTS ARE INVOLVED

THE EXPECTED SKILLS
(i) Diagrams showing union and intersection of sets.

CONTENT

Numbers

THE CONCEPTS ARE INVOLVED
(i) Doubling numbers. (ii) Approximation.

FACTS
(i) Relationships of an Egyptian pound units and metric system units. (ii) The relationships between kilogram and tonne.

THE EXPECTED SKILLS
(i) Being able to double numbers. (ii) Approximation
to nearest whole, ten, hundredth, thousandth. (iii) Long division. (iv) The ability to tell the time.

CONTENT

Geometry

THE CONCEPTS ARE INVOLVED

FACTS
(i) Relationships between meter and millimetre.

THE EXPECTED SKILLS
(i) Finding the numbers of surfaces, edge and vertices of geometrical solids. (ii) Drawing perpendicular lines using ruler and setsquares. (iii) Drawing parallel lines using ruler and setsquares. (iv) Drawing a square and a triangle using setsquare and ruler.
A content analysis of the fourth primary school book (modern mathematics)

CONTENT

Sets

THE CONCEPTS ARE INVOLVED
(i) Inclusion. (ii) Intersecting sets. (iii) Inclusion of sets. Disjoint sets.

THE EXPECTED SKILLS
(i) Solving simple problems using Venn diagrams.

CONTENT

Numbers

THE CONCEPTS ARE INVOLVED

FACTS
(i) For every two natural numbers A, B there is a natural number Y which is the sum of A and B. (ii)
For every natural number \( A - 0 = A \) and \( A - A = 0 \). (iii)
For every two natural numbers \( A, B \) there is \( N \) a natural number which is product of \( A \) and \( B \). (iv) For every natural number \( A \). \( A \times 0 = 0 \) and \( A \times 1 = A \).
(v) Division \( A/B \), may be applied on natural numbers only if the numerator \( A \) is a common multiple \( B \). (vi) For every natural number \( A \), \( A/1 = A \). \( A/A = 1 \). (vii)
The four rules on natural numbers, decimal and common fractions.

**THE EXPECTED SKILLS**

**CONTENT**
Geometry

**THE CONCEPTS ARE INVOLVED**
(i) Vector. (ii) Displacement.

**FACTS**
(i) The point is displaced to point. The line sector is displaced to line sector. The triangle is displaced to triangle. (ii) No change on shape measure and attitude when displacement. (iii) For every displacement there is inversion
displacement to turned back in its place. (iv) The sum of two displacement is one displacement. (vi) The displacement is a change of position only (not direction). (vii) Sum of angles of a triangle is 180 degree.

THE EXPECTED SKILLS

(i) Graphical representation of data. (ii) The displacement of point. (iii) The displacement of line sector. (iv) The displacement of triangle. (v) Finding result of two displacements. (vi) The realization of the type of triangle by its sides. (vii) The knowledge of types of triangle by their angles. (viii) Drawing angle with a given angle using a protractor. (ix) Drawing a triangle with given two sides and the angle between them.
A content analysis of the fifth primary school book
(modern mathematics)

CONTENT

Numbers

THE CONCEPTS ARE INVOLVED

(i) Proportion. (ii) Mean. (iii) Associative property for addition and multiplication. (iv) Distributive property of multiplication over addition.

FACTS

(i) For any natural numbers A, B, and C:

(I) \( A + (B + C) = (A + B) + C \).

(II) \( A \times (B \times C) = (A \times B) \times C \).

(III) \( A \times (B + C) = A \times B + A \times C \).

(ii) Mean = total of a set of quantities divided by number of quantities. Total of a set of quantities = mean \( \times \) number of quantities.

THE EXPECTED SKILLS

(i) Approximation to one, two and three decimals.

(ii) Calculating the mean of sets of numbers. (iii) Finding the total of a set of quantities if its mean is known.
CONTENT
Geometry. Enlargement.

THE CONCEPTS ARE INVOLVED

FACTS
(i) Perimeter of a square = length of side x 4. (ii) Perimeter of a rectangle = (length + width) x 2. (iii) Area of a square = the side x itself. (iv) The area of rectangle = length x width. (v) The relation between square units. (vi) The relation between an Egyptian land measurements e.g. Fidan, kirat sahem, etc... (vii) If B is an image of A, then the reflection line is perpendicular to the line AB. (viii) Many successive displacements can be replaced by one equivalent displacement.

THE EXPECTED SKILLS
(i) Finding perimeter and area of a square. (ii) Finding perimeter and area of a rectangle. (iii) Drawing squares and rectangles by measuring. (iv)
Drawing a right angled triangle by measuring. (v) Drawing angle equal to a known angle. (vi) Finding the image of a geometrical shape by repeated reflection in two perpendicular lines.
بسم الله الرحمن الرحيم

الاستاذ الفاضل/ الاستاذة الفاضلة

انا بصدد عمل بحثي في التربية للحصول على الدكتوراه من كلية التربية بجامعة دمياط في انجلترا.

امل في تصميم اختبارات للمهارات الاساسية في الرياضيات للمراحل الابتدائية التي تستخدم في المدارس الابتدائية في مصر، وكجزء من سالتي فانني اقوم بعمل محسن توجيهات نظر المتخصصين في مجال تدريس المهارات الأساسية للرياضيات في المرحلة الابتدائية في كل من مصر وانجلترا، ولذلك فانني اروع مساعدتك، وارشادكم الذي قد يثير البحث ويشتكيه ويجعل له أهمية، وذلك من خلال الإجابة على الاستجوابات الآتية:

1- وانني أريد ان أوجه اهتمام التدريس في هذا الاستجواب واسباباً بسردها:
- المهارة: يقصد بها اiative بيئة التعلم الفردية (الشخصي) والمعلم بسهولة وضعية سواء إذا كان ذلك يتعلق بالعمل الجماعي (الجماعي) أو العمل العلقي.
- الكفاءة في المعالجة البدوية في اليد الأصابع القدم، العين، التنسيق والانزلاق بينهم.
- المهارة الرياضية (مهارة الرياضيات)

يقصد بها: القدرة على استخدام المهارة الحسابية في العمليات الحسابية، مثل العدد، الاستنتاج،
الطرح التجريدي

المهارة الأساسية

ويقصد بها تلك المهارة الأساسية لتفنن الموضوعات المدرسية مثل الجمع أو الطرح في الحساب.

المهارة التحويلية

ويقصد بها تحويل معلومة رياضية في صورة الي أخرى.

وتتمثل هذه المهارة في الآتي :

ـ القيام بأنشطة في الهندسة، وتعني التعامل مع الأدوات الهندسية، القيام بأنواعه، رسم بعض الأشكال بشروط معينة بما في ذلك الأضلاع والعملات الهندسية أو ما يسمى بالهندسة العملية.

ـ مهارة قراءة اللغة الرياضيات، وتعني قراءة الرموز والمصطلحات الرياضية ومعرفة مدلولاتها وقراءة الجمل الرياضية (العبارات) وتعرف معناها والتعبير عنها بلغة التلميذ كما تتمكن تحديد المصطلحات والمعطيات في مسألة ما.

ـ كما تتمثل في القدرة على تحويل مسألة لفظية أو تصريحة من شكل هندسي إلى شكل وخط وتعبير لفظي عن بعض القوانين والعلاقات وقراءة شكل هندسي والتعبير عن العلاقات الموجودة فيه لفظياً، وتحويل جدول ما إلى شكل بياني.

النقطة الرياضية

ويقصد بها تحويل موقف خيالي ما إلى مجموعة من العلاقات الرياضية، كـ...
تعني أيضاً تحويل مسألة دقيقة ما إلى تعبيرات وعلاقات رمزية (مثل الوصول إلى الميزة أو صورة للمعايير - لساحة المستقبل - بعد اخذ وحسب العديد من المربعات لعديد من المدخلات).

المهارات الإجرائية (إجراءات العمليات الأساسية)

وتتمثل هذه المهارة في القدرة على إجراء عمليات حسابية مثل الجمع والطرح والقسمة والضرب في الحالات المعينة وعلى أنواع الأعداد المختلفة، وإيجاد الجذر التربيعي، واللتخطيطية وتحليل الأعداد وإيجاد العامل، وانتقاء المشترك بين عددين أو أكثر.

المهارات التطبيقية

وبعد هذا القدرة على تطبيق الصيغ السبعة للقوانين والعلاقات، مثل معرفة صيغة المعايير المتضمنة بالمادة، والقدرة على استخدام هذه الصيغة لحساب مساحة مستطيل معطى.

المهارات التطبيقية

وعني القدرة على الوصول للنتائج من المعلومات المعطاة.

osing 3 = 6 أو إذا 0 يساوي 0، أو في الاحتمال عندما a = b، إذا b = a إذا a = b.

مهارة حل المشكلات

وعني القدرة على رؤية العلاقات الرياضية في أي موقف ومصادر إلى الحل.

معلومة (م) الإمام ماهاسلك في الأسئلة من 03.
1 - السؤال الأول (ب)

مفتتح في المرحلة الابتدائية
وكل في المرحلة الابتدائية
مدرس رياضيات في المرحلة الابتدائية
مدرس في المرحلة الابتدائية
نولوجى في قسم علم النفس في الجامعة
مدرس طرق تدريس الرياضيات في كلية التربية
مدرس في قسم اصول التربية
مدرس مساعد في كلية التربية
معيد في كلية التربية
مفتتح رياضيات

إلى وظيفة أخرى ضع اسم وظيفتك

السؤال الأول (ب)

مohlاتك في الرياضيات

١ - ثانويه عامة ٢ - دبلوم معدلين أو معلمة نظام ٣ سنوات

٢ - دبلوم معدلين أو معلمة نظام خمس سنوات معمية عامة

٤ - ثانويه عامة ٤ - دبلوم خاص في تدريس الرياضيات

٥ - بكالوريوس رياضيات وتربية

٦ - بكالوريوس رياضيات وتربية

٧ - ماجستير في الرياضيات والرياضيات والغربية
8- دكتوراة في التربية
9- ابتدائية قديمة
10- أي موجهات أخرى وضحها
السؤال الثاني
سنوات العمل في المدرسة الابتدائية
10 إلى 11 إلى 12 إلى 13 إلى 14 إلى 15
16 إلى 17 إلى 18 إلى 19 إلى 20
أكثر من 20 سنة
السؤال الثالث
الجنس
ذكر
انثى
وضع علامة ( صح ) أمام عبارة من العبارات الآتية
مبيناً إذا كنت موافقًا بدرجة 6 أو موافقًا، أو غير موافق
أو غير موافق، أو غير موافق بدرجة
 موافق
 موافق
غير موافق
غير موافق
غير موافق بدرجة
السؤال الخامس

اكتساب المهارات الأساسية للرياضيات من أهمية كبيرة. الأهداف في تدريس الرياضيات في المرحلة الابتدائية مستوي مهارات الرياضيات المكتسبة بواسطة تلاميذ المرحلة الابتدائية العاديين موضع.

وافق بعدها

وافق

غير متأكد

غير موافق

غير موافق بعدها

إذا كنت غير موافق بعدها من فضلك ذكر الأسباب.

السؤال السادس

بجرب على كل تلاميذ المرحلة الابتدائية في مصر
تعلم المهارات الأساسية للرياضيات

موافق بشدة

موافق

غير متأكد

غير موافق

غير موافق بشدة

إذا كنت موافقاً على بعض الأساليب

السؤال السابع

بصفة عامة، كيف تبدي مرحلة الابتدائية في كل أنحاء العالم تعلم المهارات الأساسية للرياضيات؟

إذا كنت موافقاً على بعض الأساليب

السؤال الثامن

المهارات الأساسية للرياضيات لا تتغير في أي مكان

السؤال التاسع

هناك اختلافات بين مهارات الرياضيات، المهارات الأساسية للرياضيات.

إذا كنت موافقاً على ذلك، ذكر هذه الاختلافات كما تراها انت
السؤال العالم

المهارات التحويلية من الأهداف المهمة في تدريس الرياضيات

المهارات الابتدائية

المهارات الحادية عشر

المهارات التحويلية

ا. القيام بانشاءات في الهندسة مثل الهندسة العملية
ب. مهارات قراءة لغة الرياضيات، وتعني قراءة الرموز والمصطلحات الرياضية ومعرفة مدلولاتها وقراءة الجمل الرياضية

ج. تحويل البيانات الموجودة في جدول ما إلى رسم بياناني
د. التعبير عن العلاقات والقوانين الرياضية لنظرية
ه. النقطة الرياضية، وتعني تحويل موقف الرياضيات ما إلى مجموعة من العلاقات الرياضية، كما تعني أيضاً تحويل مساحة لغطية ما إلى تعبيرات وعلاقات مرزمة

من فضلك ذكر أي مهارات أخرى يمكنك أن تعتبر كمهارات تحويلية من وجهة نظرك.

السؤال الثاني عشر

اكتساب المهارات الإجرائية من الأهداف المهمة

في تدريس الرياضيات في المرحلة الابتدائية
السؤال الثالث عشر

المهارات الأثرية تعتبر مهارات أجرائيةْ

(1) القدرة على إجراء عمليات حسابية كالجمع والطرح والضرب.
(ب) القدرة على حساب مربع أو مكعب عدد.
(ج) إيجاد العامل والمضاعف المشترك بين عددين أو أكثر.
(د) إيجاد الاتحاد والتقاطع للفئتين.
(ه) القدرة على تحويل عدد من نظام أخر (مثل القدرة على تحويل 12 من النظام الثنائي إلى النظام十)
(و) القدرة على إجراء قواعد الحساب الأربعة في الأنظمة المختلفة.

تذكر مهارات أخرى التي تعتبرها مهارات إجرائيةْ

السؤال الرابع عشر

أكسب المهارات التطبيقية من الهدف المهمة في تدريس الرياضيات في المرحلة الابتدائية

موفق بعدة موفق
غير متأكد غير موفق غير موفق بمشيئة...
السؤال الثامن عشر

المهارات الآتية تعتبر مهارات تطبيقية:

(1) التبقي المعاشر لقانون أو علاقة "قانون مساحة مثلث" 
(ب) التعبير عن متغير بدلالة متغيرات أخرى في علاقة أو 
قانون معين.

من فضلك ذكر أي مهارات أخرى يمكن أن تعتبر مهارات 
تطبيقية في المرحلة الابتدائية من وجهة نظرك.

السؤال السابع عشر

اكتساب المهارات المنطوية من الأهداف المهمة في تدريس 
المهارات في المرحلة الابتدائية:

متوافق بدرجة
متوافق
غير متأكد
غير متوافق 
غير متوافق بدرجة

السؤال السادس عشر

المهارات الآتية تعتبر مهارات منطوية:

(1) برهان لبعض العلاقات الهندسية أو الجبرية البسيطة.
(ب) التحليل للخطوات المستخدمة لحل مسألة رياضية.

مثلًا إذا كان ا ب = ج إذا ا = ج.
القدرة على حل المسألة الرياضية بطرق متعددة مثل
القدرة على تقرير أكبر ضع في مثلث بالقياس، ومعرفة
انه مقابل أكبر زاوية في مثلث.
( 5 ) القدرة على استخدام العمليات العكسية

من فضلك ذكر أي مهارات أخرى التي تعتبرها مهارات منطقة.
السؤال الثامن عشر

اكتب مهارة حل المشكلات من الأهداف المهمة في تدريس الرياضيات
في المرحلة الابتدائية.

إذا كنت موافق من فضلك ذكر بعض النقاط.

السؤال التاسع عشر

المهارات الآتية تعتبر مهارات حل المشكلات:
( 1 ) استخدام الماليب الرياضية عامة وتعني امتحانات امتحانة تحصل
خاصة معينة أو نظرية، وتعرن ظاهرة عامة من امتحانة
خاصة، واستدعاء بعض الخواص المناسبة لوصف الرياضي، والتعبير
بين المعنيات والنتائج في مسألة أو مشكلة.
( 2 ) القدرة على الوصول لنتائج عامة من امتحان خاصة معينة
( 3 ) حل تمارين تتضمن مهارات متعددة
( 4 ) حل امتحان غير نمطية.
578

(5) مباغة مشكلة علمية في الأسلوب الرياضي، واستخدام أساليب
رياضية في حل المشكلات أو مسائل غير رياضية...

(ع) القدرة على استخدام طرق رياضية في حل المشكلات الرياضية
أو غير رياضية...

من فضلك ذكر أي مهارات أخرى التي تعتبرها من مهارات حل
المشكلات.

السؤال العشرون

المهارات الأساسية للرياضيات تحقق من خلال محتوى
الرياضيات الذي يستخدم في المدرسة الإبتدائية الآن.

ب) هذه المهارات تحقق باستخدام...

1) التعليم بالأنشطة.

2) طريقة حل المشكلات.

3) الطرق العملية.

4) التعليم البرمجي.

5) طرق أخرى من فضلك ذكرها.

السؤال الحادي والعشرين

المهارات الأساسية للرياضيات تحقق أفضل من خلال:

(1) الرياضيات الحديثة.

ب) الرياضيات التقليدية.

ج) المرج بين الرياضيات الحديثة والتقليدية.

السؤال الثاني والعشرين
لتقييم المهارات الأساسية للرياضيات من الأفضل استخدام:

ا) السبورة
ب) الطباشير
ج) الاجهزة والمناهج التعليمية
د) استخدام البيئة

السؤال الثالث والعشرين

المهارات الأساسية للرياضيات تحقق من خلال طرق التدريس

الحالية في المرحلة الإبتدائية

إذا كنت موافقًا، فذكر الطرق المستخدمة.

إذا كنت غير موافق، فذكر فضلك وضح الأسباب.

السؤال الرابع والعشرين

المهارات الأساسية للرياضيات توجد في الامتحان عند وضع مناهج أعداد معلم المرحلة الإبتدائية.
Dear Sir/Madam,

I am a Ph.D student in the school of Education at the university of Durham. I hope to design tests of fundamental (Basic) mathematical skills for use in Egyptian schools, and as part of my research I am making a survey of experts' views on these skills both in Egypt and England.

I would be most grateful for your help by completion of the following questionnaire. For the purposes of this questionnaire I have used the following definitions of skills:

1) **SKILL:**
1. Anything that the individual has learned to do with ease and precision; may be either a physical or a mental performance.
2. (Orthopaedic) manipulative proficiency in hand, finger, foot, and eye coordination. (A dictionary definition).

2) **MATHEMATICAL SKILL:**
Is the ability to use the operational
techniques of mathematics for example, computation, induction, deduction, and abstraction.

(3) FUNDAMENTAL SKILL:
Is that which is basic to the mastery of a school subject, such as addition or subtraction in arithmetic.

(4) TRANSFERABLE SKILL:
Is the ability to transfer a single piece of mathematical information from one form into another form. (For example, the ability in geometry to read measurements of a triangle and to draw that triangle, or being able to read a mathematical sentence and being able to express its meaning in children's language, or reading a table of data and being able to draw a graph of that data etc....).

(5) MATHEMATICAL MODELISM:
Is the ability to create a mathematical model of a physical situation in terms of symbols or equations. (e.g. being able to arrive at the formula for area of a rectangle after having "counted squares" in many rectangles).

(6) PROCEDURAL SKILL:
Is the ability to do a fundamental
mathematical process (e.g. the ability to do addition, subtraction, division, multiplication etc...).

(7) APPLIED SKILL:
Is the ability to apply simple formulae, laws or relations. (e.g. knowing the formula for area of a rectangle, being able to use the formula to calculate the area of a given rectangle).

(8) LOGICAL SKILL:
Is the ability to draw a conclusion from given data (e.g. being able to reason that since $2 + 3 = 5$ then $3 - 5 = -2$, or in situations where $A = B$ and $B = C$ to conclude that $A = C$ etc......).

(9) PROBLEM SOLVING SKILL:
Is the ability to see the mathematical relationships in a situation and to compute a solution.

Please tick a box or boxes in questions 1 to 3.
(1) (a)

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<tr>
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(b) Qualification in Mathematics

(1) 0 level
(2) A level
(3) Teaching Certificate
(4) Degree
(5) P.G.C.E

(2) Years of work in primary school

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(3) Sex

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For each statement below, please indicate with a tick (/) whether you strongly agree (SA) agree (A), are undecided (U), disagree (D), or strongly disagree (SD).

(4) Acquiring fundamental mathematical skills is an important aim in teaching mathematics in primary school.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

If you strongly disagree please give the reasons.

__________________________________________
__________________________________________
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(5) The level of mathematical skills reached by the normal primary school child is satisfactory.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)
If you disagree please give the reasons.

(6) All British primary school pupils should be taught Fundamental mathematical skills.
Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

If you agree please give some reasons.

(7) Fundamental mathematical skills should be taught to primary school pupils throughout the world.
Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)
If you agree please give some reasons.

(8) Fundamental mathematical skills are the same everywhere.
Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

(9) There are differences between mathematical skills and Fundamental mathematical skills.
Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

If you agree please give the differences as you see them.

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(10) Transferable skills are an important aim in primary mathematics teaching.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

(11) The following skills are transferable skills:–

(a) Practical skills, as in practical geometry.
(b) Reading skills of mathematical language as in reading mathematical symbols and terms and being aware of their meaning.
(c) Transferring a table of data to a graph.
(d) Expressing a mathematical law, equation or relation in words.
(e) Creating a mathematical model of a physical situation in terms of symbols, equations or formulae.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)
Please list any other skills that you consider transferable skills.

(12) Acquiring procedural skills are an important aim in primary mathematics teaching.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

(13) The following are procedural skills:

(a) Being able to do mechanical addition, subtraction, multiplication.

(b) Being able to calculate the square or cube of a number.

(c) Finding a common divisor denominator or common multiple of two numbers.

(d) Finding the union or intersection of two sets.

(e) Being able to change a number from one base to another. (e.g. being able to change 12 base ten to a binary number).
(f) Being able to do simple four rule examples in multibase arithmetic.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

Please list any other skills that you consider as procedural skills.

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(14) Acquiring applied skills is an important aim in primary mathematics teaching.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

(15) The following are applied skills:--

(a) Direct application of mathematical laws or relations (e.g. using the formula for area of a rectangle).
(b) Expressing a variable as a combination of other variables (e.g. the perimeter of a rectangle is the sum of the lengths of the four sides).

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

Please list any other skills that you consider as applied skills.

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(16) Acquiring logical skills is an important aim in primary mathematics teaching.
Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

(17) The following skills are logical skills:

(a) Proof of simple geometrical or algebraic
relation
(e.g. if \( a = b \) and \( b = c \) then \( a = c \)).

(b) Being able to solve a problem by various methods
(e.g. being able to decide the longest side of a triangle by measurement of length or realizing it is opposite the largest angle).

(c) Being able to use an inversion process
(e.g. solving \( 5 - x = 3 \) by calculating \( 5 - 3 \)).

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

Please list any other skills which you consider as logical skills.

(18) Acquiring problem solving skills is an important aim in primary mathematics teaching.
Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

If you agree please list some reasons.

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(19) The following skills are problem solving skills:

(a) Being able to establish the relationship between given data and the required result.
(b) Being able to arrive at a general result from particular examples.
(c) Solving a problem which requires several skills.
(d) Solving non-standard problem.
(e) Being able to formulate a simple scientific problem in terms of mathematics (e.g. establishing the relation between the height a ball is dropped from and the rebound height).
(f) Being able to use mathematical methods in solving mathematical or non-mathematical issues.
Please give any other skills which you consider problem solving skills.

(20) (A) The Fundamental mathematical skills are well covered in the scheme of mathematics used in your school.

(B) These skills are covered by:
   (i) Discovery learning.
   (ii) Problem solving.
   (iii) Practical approaches.
   (iv) Programmed learning approaches.
(v) Other learning methods:— (Please state).

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

(21) The Fundamental mathematical skills are best covered in:—

(a) Modern syllabus.
(b) Traditional syllabus.
(c) Mixed syllabus.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

(22) To cover the Fundamental Mathematical skills it is best to use:

(a) Blackboard, chalk, talk.
(b) Structural apparatus.
(c) The environment.
(d) Other equipment (Please list)

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(23) The fundamental mathematical skills are well learnt and understood by primary children using current teaching methods.

Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

If you agree please state method used:

If you disagree please explain why:
(24) Fundamental mathematical skills are well covered in initial teacher training courses.
Strongly agree (SA)
Agree (A)
Undecided (U)
Disagree (D)
Strongly disagree (SD)

Please give comments on your views for this question.
The results of the Egyptian questionnaire (jobs)

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APPENDIX (XVI)

The results of the Egyptian questionnaire (qualifications)

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APPENDIX (XVII)

The results of the Egyptian questionnaire (years of work)

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APPENDIX (XVIII)

The results of the Egyptian questionnaire (Sex)

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APPENDIX (XIX)

The results of the Egyptian questionnaire (question 4)

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APPENDIX (XX)

The results of the Egyptian questionnaire (question 5)

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APPENDIX (XXI)

The results of the Egyptian questionnaire (question 6)

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The results of the Egyptian questionnaire (question 15 a)

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APPENDIX (LVII)

The results of the Egyptian questionnaire (question 24)

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اختبار مهارات الرياضيات عمر 9 سنوات
زينب أحمد عبد الغني خالد

الاسم المدرسة:
الاسم التلميذ:
تاريخ الاختبار:
تاريخ ميلاد التلميذ:
العمر:
الجنس:
درجة التلميذ في مادة الحساب
لصف السنة الدراسية:
الم Kısaات

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| (10)         | (12)      | (13)       |            |

المشمس 2

1 = \(2 \times 2\)

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الصفحة 22

31 قرش

(00)

(01)

(02)

سنوات 7 سنوات
سنوات 5 سنوات
سنوات 2 سنوات
سنوات
(1) ضع علامة صح (✓) تحت الجمل المشابه في الحجم للجهاز الذي يدخل الصندوق على اليسار.
(2) ضع علامة صح (✓) تحت الشكل المعثم تمامًا للأشكال الذي يدخل الصندوق على اليسار.
(3) ضع علامة صح (✓) تحت الصندوق الذي يحتوي على نفس العدد من الكراسي مثل نفس عدد الألفاظ في الصندوق الذي على يسارك.
(4) هنا شكل من الأشكال، الشكل المعظم شكل مستطيلي.
(5) ارسم عدد من الأطباق للفنادق حتى يصير عدد الأطباق الفنادق نفس عدد الفنادق.
(6) كم يمثل هذا الجزء المقصور بالنسبة للشكل ككل؟
(7) ظل نصف هذه الدائرة؟
(8) يوضح هذا الرسم البياني الفواكه المحببة لمجموعة من الأطفال.

"يوجد هنا تفاح وكمثرى وبرتقال وموز وفراولة ..". ما هي الفاكهة التي اختيرت بواسطة أكبر عدد من الأطفال؟
هل هناك عدد من الأطفال يحبون الموز أكثر من الفراولة؟
ما هي الفاكهة التي اختيرت بواسطة نفس عدد من الأطفال؟
(9) والآن يوجد امامك صندوق كبير به عدد من النجاح
والمطلوب منك أن ترسم حلقات لتقسيمهم إلى مجموعات كل
مجموعة مكونة من أربعة.
( المجموعة الأولى عملت لك كمثال لتعمل مثله )
اكتب العدد المتبعي في الصندوق البار في اليمين.
( 10 ) انظر إلى الصورة التي امامك في الصف.
ضع علامة صح ( ) تحت الصورة التي تحتوي نفس العدد من
العربات مثل عدد المنازل التي في الصورة الموضحة امامك.
( 11 ) امامك صندوق كبير به عدد من الحمير.
ارسم حلقات لتقسيمهم إلى مجموعات كل مجموعة تكون من
10 10 ثم اكتب العدد المتبعي في الصندوق البار على يمينك.
( 12 ) امامك صندوق به عدد من الأرانب.
ارسم حلقات لتقسيمهم إلى مجموعات كل مجموعة تكون من
ثمانية ( 8 )
ثم اكتب العدد المتبعي في الصندوق الذي على يمينك.
( 13 ) يوضح هذا الرسم البياني الحيوانات المحببة لمجموعة
من عائلات الفلاحين.
owment هنا الدجاج والأرانب والأوز والاغنام والحمير.
كم عائلة تفضل اقتناء الدجاج ؟
عائليات الفلاحين يحبون الأرانب أكثر من الحمير ؟
هل هناك عدد من عائلات الفلاحين يحبون الأرانب أكثر من الحمير ؟
( 14 ) عدد الاسمات التي امامك ثم ضع الإجابة في الصندوق الذي
بمنحك، كأحد المكاني النافذ الذي على يمينك،
(15) ضع حلقة حول العدد الأكبر من هذه الأعداد (أكبر الأعداد).
(16) ضع حلقة حول أصغر الأعداد.
(17) الآن امامك ستة منايد بمثابة من هذه الصناديق
نارغة 10 أبدا من الصندوق الذي يحتوي على الرقم 10 بداخله
ثم اضف العدد الذي فوق السهم الذي يلي ذلك الصندوق مباشرة.
ثم ضع الناتج في الصندوق التالي مباشرة ثم ابدا ثانيا من هذا
الصندوق، اضف العدد الذي فوق السهم الذي يليه مباشرة ثم
ضع الناتج في الصندوق التالي مباشرة.
كرر هذه العملية إلى أن تنتهى بمثابة كل الصناديق.
(18) الآن امامك مجموعة من الأشياء، عدد هذه الأشياء
امامك، اكتب الناتج، نشل المثال الموضح امامك تماماً.
(19) امامك فئات من الأشياء، احسب عدد هذه الأشياء.
امامك، اكتب الإجابة، نشل المثال الموضح امامك.
عدد الموز = 3 × 2 = 6 أو ثلاثة مضروبة في اثنين تساوي
ستة.
(20) امامك فئات من الأشياء، احسب عدد هذه الأشياء
بطرقتين على ان تحصل على نتيجة واحدة في كلتا
الحالتين، تماماً نشل المثال الموضح امامك.
عدد الأزهار = 6 + 1 = 7 × 1 = 7.
(21) امامك ثلاث مربعات كبار
كل مربع من هذه المربعات الكبار يحتوي على عدد من المربعات الصغيرة بداخله. بعض من هذه المربعات مظلمة.
إطرح عدد المربعات المظلمة من العدد الكلي للمربعات الصغيرة في كل حالة. تمامًا مثل المثال الموضح امامك.
اكمل الحالتين الأخرين تمامًا مثل المثال الموضح امامك تمامًا.

(22) اكمل سلسلة الأعداد الموضحه امامك.
(23) إذا أضيفت عشرة إلى خمسة عشر، يعطى خمس وعشرون.
والآن اكتب في السطر الأول عددين أخرين إذا أضيفتًا يعطى خمس وعشرون.
فكر أيضًا في عددين أخرين إذا أضيفتًا يعطيان خمس وعشرون.
اكتب هذين العددين في السطر الثاني.
(24) العدد 30 يجب القسمة تماما على العديد من الأعداد.
هناك قائمة بالأعداد امامك. وضع دائرة حول العدد الذي يقبل القسمة على 30 بدون باقي.
(25) في عملية الجمع التي امامك، يوجد أحد الأعداد ناقص. اكتب العدد الفقير في الصندوق الذي امامك في الورقة حتى يجعل الجمع صحيحًا.
(26) يوجد امامك ثلاث طرق. ب، ج، حسن يريد أن يذهب للمحطة الأنوبيس.
ما هي الطرق التي يمكن أن توصل حسن لمحطة الأتوبيس؟

أي من هذه الطرق يمكن أن يأخذه حسن ليصل في أقل وقت ممكن؟

ما هو أقصر الطرق للوصول إلى محطة الأتوبيس؟

(27) هناك عدد ناقص في عملية الضرائب التي اماكة.

اكتب العدد الناقص في المندوق الذي اماكة لتجعل العملية صحيحة.

(28) يوجد اماكة سلسلة من الأعداد حاول المحافظة على نفس النمط الذي في المثال الذي اماكة؛ ثم اكتب العدد التالي الذي يجب ان يوضع في المندوق الفارغ الذي اماكة.

(29) أحد الأعداد "6 6 6 6" (اكتب هذه الأعداد على السبورة) ناقصة 0 اكتب الأشارة الناقصة في المندوق الذي اماكة حتى تجعل العمليات التي اماكة صحيحة.

(30) اماكة مجموعة من الأعداد، اكتب هذه الأعداد فقط ينتمون إلى نصف القسمة تماما بدون باقي على نفسه وعلى واحد، ما هو هذا العدد؟

ارسم حلقة حول هذا العدد الذي ينتمي القسمة فقط على نفسه وعلى واحد.

(31) انظر جيدا لالإضداد الموضوعنه في المراعيات التي اماكة، ثم حاول ان تكمل بقية المراعيات بنفس النمط.
الموجود في الأعداد الأولى.
( 22 ) وضع حلقات حول هذه الأعداد التي لا يمكن أن توجد من 27.
( 23 ) امامك عدد دان، كل واحد منهم يليه سطر فارغ، في كل سطر فارغ، ضع العدد الذي يأتي مباشرة بعد العدد الموجود امامك.
( 24 ) امامك صندوقين مثيران.
( 1 ) في الصندوق الأول، اكتب العدد الذي يليه 5 عن 11.
( 2 ) في الصندوق الثاني، اكتب العدد الذي يليه 1 عن 9.
( 25 ) المكعب المظلل الذي امامك يزن 100 جرام.
ما هو الوزن الكلي لهذه المكعبات التي امامك.
( 26 ) امامك مجموعة من الأشكال، ضع علامة تحت الثلاث أشكال التي يمكن أن تنقسم تماما إلى نصفين متساويين تماما في الشكل والحجم.
( 27 ) كم يمثل من الكسر الجزء المظلل في الشكل الذي امامك؟
( 28 ) كم جرام يوجد في نصف كيلوجرام سكر؟
كم جرام يوجد في ربع كيلو زبدة؟
( 29 ) انظر الى الثلاث مربعات التي امامك، يوجد من هذه المربعات، بعض الأجزاء المظللة.
وضع علامة ( ) تحت المربع الذي ظل نصفه تمامًا.

( 20 ) في الشكل الذي امامك ارسم مستقيم في
الوضع الذي يظهر تقسم الشكل إلى جزئين متساويين.

( 21 ) هناك نسبته بطريقة ما في أربع أعداد من الاعداد
الموجودة امامك وضع حلقة حول العدد المخالف عن
هذه الأعداد.

( 22 ) ظل ربع هذا الشكل؟

( 23 ) يوجد امامك عدد من المستطيلات داخل كل واحد
يوجد عددين.

وفي كل حالة ارسم دائرة حول العدد الأكبر.
الحالة الأولى عملت لك مثال.

( 24 ) اما الاماكن التي بالجدول.
الحالتيان الأولتان عملت لك مثالاً تتبعه.

( 25 ) يوجد امامك ميزان في الجانب الأول ( 1 ) يوجد
10 بلبات، كما يوجد في الجانب الآخر ( ب ) 17 بلبة.
مع الأخذ في الاعتبار ان كل البلتين متساوي في الوزن
كم من البلي يمكن ان نضيفه للجانب ( 1 ) حتى يكون الميزان
منزلياً تمامًا من نواض على عمارهم.

( 41 ) يوجد امامك ثلاث أطفال موضوع اعمارهم.
ما هو الفرق في العمر بين أكبر الأطفال وصغر الأطفال؟

(47) وزع 35 بليغة بالتساوي بين خمس أولاد. كم بليغة يمكن أن يأخذه كل ولد؟

(48) عمر حسين الآن 12 سنة. كما أن عمر رهام الآن 8 سنوات. عندما يكون عمر حسين 33 سنة، كم يكون عمر رهام عندئذ؟

"33 سنة يمكن أن تكتب على السبورة".

(49) في محفظتك يوجد 20 قطعة كل قطعة تمثل 5 قروش. اضف 4 قروش إلى القيمة. كم قروش يبقى معك بعد ذلك؟

(50) اما مك فئات من النقش.

ارسم فئة النقش التالية ثم اكتب العدد تحت الخط الذي امامك.
(٥١) هنا أيضا يوجد نقطة من النقاط.

ارسم نقطة النقطة التالية ثم اكتب العدد تحت الخط الذي امامك.

(٥٢) يوجد امامك ثلاث نقاط موضحة اعمارهم.

ما هو الفرق في العمر بين أكبر القطط واصغر القطط؟

ما عمر القطة التي بين أكبر القطط واصغر القطط؟

ما هو مجموع اعمار الثلاث نقاط؟
BASIC MATHEMATICAL SKILL TEST

Z.A.A.G. KHALID

SCHOOL'S NAME

CHILD'S NAME

DATE COMPLETED

DATE of BIRTH

AGE

SEX

AGE 7 - 9
6) [Image of a triangle]

7) [Image of a circle]

8) [Bar chart showing the number of children who prefer different fruits: Apples, Pears, Oranges, Bananas, Strawberries. The chart indicates the number of children who prefer each fruit.]

9) [Images of chickens, some in a group and some scattered.]
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</tr>
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<td></td>
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**Families**

<table>
<thead>
<tr>
<th>14)</th>
<th>5555</th>
<th>5655</th>
<th>6555</th>
<th>5556</th>
<th>5565</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>15)</th>
<th>5555</th>
<th>5655</th>
<th>6555</th>
<th>5556</th>
<th>5565</th>
</tr>
</thead>
</table>

| 16) | 5432 | 2345 | 2435 | 3542 | 4352 |
17)

10 → +1 → +2 → +3 → +4 → +5

18)

3 + 4 = 7

--- + --- = ---

--- + --- = ---
Page 7

20)  

\[ 6 + 6 = 2 \times 6 \]

6 + 6 = 2 \times 6

\[ 6 + 6 = 2 \times 6 \]

21)  

\[ 9 - 4 = 5 \]

\[ \ldots - \ldots = \ldots \]

\[ \ldots - \ldots = \ldots \]
23)  

10 + 15 = 25

--- + --- = 25

--- + --- = 25

24)  

1 2 3 4 5 6 7 8 9 10 11 12 13

25)  

7 + [ ] + 3 = 30
26) 

27) 
7 \times 9 = 63

28) 
1, 6, 11, 16, 

29) 
\begin{align*}
20 & = 5 \\
9 & = 1 \\
11 & = 19 \\
\end{align*}

30) 
4 14 15 12 16 19 20
31) 

32) 

13 20 27 34 41 12 13

33) 

312 115

34) 

35) 

-------- grammes

36)
37) 

38) 1000 grams = 1 kilogram

\[ \frac{1}{2} \text{ kilogram sugar} \]

\[ \frac{1}{4} \text{ kilogram butter} \]

= _______ grams = _______ grams

39) 

40)
41) 92 46 38 93 74

42) 

43) 

44) 

<table>
<thead>
<tr>
<th>2 out of 4</th>
<th>Fraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/4</td>
<td>1/2</td>
</tr>
<tr>
<td>5 out of 15</td>
<td>1/3</td>
</tr>
<tr>
<td>3 out of 12</td>
<td></td>
</tr>
<tr>
<td>8 out of 72</td>
<td></td>
</tr>
<tr>
<td>40 out of 40</td>
<td></td>
</tr>
<tr>
<td>20 out of 100</td>
<td></td>
</tr>
</tbody>
</table>
45) A 10 B 17

46) 8 3 10 _______ years

47) 5 boys marbles marbles

48) John 14 years old Betty 8 years old _______ years old
APPENDIX (LVIII)

FORM OF THE INSTRUCTIONS FOR THE ENGLISH TEST 1 (AGE 7 TO 9)

(1) Put a tick under the camel which is equal in size to the camel in the box on the left.

(2) Put a tick under the shape which is the same as the shape in the box on the left.

(3) Put a large tick, under the box which has the same number of chairs in it as there are children in the first box.

(4) Here is a row of shapes. The first, which is shaded, is a rectangle.
   You shade in a circle, please.

(5) Draw more saucers until there are as many saucers altogether as there are cups.

(6) What fraction of this shape is shaded?

(7) Shade in one half of the circle.

(8) This graph shows the favourite fruits of a group of children.
"There are apples, pears, oranges, bananas, and strawberries".
Which is chosen by the largest number of children?
How many more children like bananas than strawberries?
Which two fruits are chosen by the same number of children?

(9) Now we have chickens in a large box.
I want you to draw rings to put them into groups of four.
The first group is done for you.
Write the number you have left over in the empty box on the right.

(10) Look at the pictures in the row. Put a large tick under the picture that has as many cars in it as there are houses in the first picture in the row.

(11) We have a large box with donkeys in it.
Draw rings to put them into groups of 10, and write the number of those left over in the empty box at the end.

(12) This box has rabbits.
Draw rings to put them into groups of 8 and write the number of those left over in the small box at the
(13) This graph shows the favourite animals of groups of farmer's families. There are chickens, rabbits, geese, sheep, and donkeys. How many farmer's families have chickens as favourites? Which one is chosen by the smallest number of farmer's families? How many more family like rabbits than donkeys?

(14) Count the number of fishes and put the answer in the empty box on the right.

(15) Put a ring round the biggest of these numbers.

(16) Draw a ring round the smallest of these numbers.

(17) Now you have nine boxes. Eight of them are empty. Start from the box which has number 10 in it and then add the number over the following arrow. Then put the sum in the next box and start from that box, adding the number over the next arrow and put the sum on the following box. Do this until you finish all boxes.
(18) Now you have groups of objects. Count these objects and write down the sum in the same way as the first, which is done for you.

(19) You have sets of objects. Calculate the number of objects and write down the answers. The first set is done for you (the number of bananas are $3 \times 2 = 6$ or three multiplied by two equals six).

(20) You have sets of objects. Calculate the number of objects in two ways, both having the same answers. One of sets is done for you (The number of flowers are $6 + 6 = 2 \times 6 = 12$).

(21) You have on your paper three big squares. Each one has small squares in it. Some of these squares are shaded. Subtract the shaded squares from the total number of small squares in each case. The first one is done for you. Complete the other two in the same way.

(22) Complete the missing numbers in this series.

(23) Ten and fifteen add up to twenty five. Write down on the first line given two other numbers which add up to twenty five.
Now you think of two more numbers which add up to twenty five.
Write those on the second line.

(24) 30 is a number that can be divided exactly by several numbers.
There is a list of numbers on your paper.
"Draw circles round those which divided exactly into 30".

(25) One of the number is missing from this sum.
Write the missing number in the box to make the sum right.

(26) On your paper there are three roads, A, B, and C. Peter wishes to go to the Bus Station.
Which of these roads leads to the Bus Station.
Which way can he go to take the shortest time.
Which of these is the shortest distance.

(27) There is a missing number in this sum.
Write the missing number in the box to make the multiplication right.

(28) There are a series of numbers. If we keep to the same pattern, which is the next number to put it in the empty box.
(29) One of the signs "+, -, x, /" (Write these on the board) is missing from this sum. Write the missing sign in the box to make the sum right.

(30) One of these numbers can only be divided exactly by itself and by one. Which is it?. Draw a circle round it.

(31) Put the right number in the empty box.

(32) Draw circles round those numbers which cannot be taken away from 27.

(33) Two numbers each with a line after it. On each line write the number which comes after the one that is there.

(34) Two small boxes. In the first write the number which is 5 less than 11. In the other write the number which is 6 more than 9.

(35) The shaded end of this block weight 100 grams. How much does the whole block weight ?.

(36) Here are some shapes. Put crosses in the three shapes which could be cut in half so that both halves are exactly the same size and shape.
(37) What fraction of this shape is shaded?.

(38) How many grams are there in half a kilogram of sugar?.
How many grams are there in a quarter kilogram of butter?.

(39) Look at the three squares. All have some part shaded. Put a large tick in the one having exactly a half shaded.

(40) In the shape draw a line to show where you would cut it to make it into halves.

(41) Four of these numbers are alike in some way. Draw a ring round the number that is different from all the rest.

(42) Shade one quarter of this shape.

(43) You have in your paper two numbers inside each box. In each case draw a circle round the bigger number.
The first one has been done for you as an example?.

(44) Fill in the spaces in the table.
The first two have been done for you.
(45) Here is a balance. On side A there are 10 marbles and on side B there are 17. All the marbles are the same weight. How many marbles must we add to side A to make the sides balance exactly?

(46) Here are 3 children with their ages. What is the difference in age between the oldest and youngest?

(47) Share the 35 marbles equally among the 5 boys. How many marbles would each boy get?

(48) John is 14 years old now, and Betty is 8. When John is 23 years old, how old will Betty be? "23 years old can be written on the board".

(49) You have twenty 5p coins in your purse. You buy a ball costing 31p. How much money have you left?

(50) Here are sets of dots. Draw the next set and write the number below the line.

(51) Here are sets of dots. Draw the next set and write the number below the
(52) Here are three cats with their ages.
What is the difference in age between the oldest and youngest?.
How old is the cat between the eldest and the youngest?.
What is the total age of the three cats?.
اختبار مهارات الرياضيات عمر 11 سنة
زينا أحمد عبد الغني خالد

اسم المدرسة:
اسم التلميذ:
تاريخ الاختبار:
تاريخ ميلاد التلميذ:
العمر:
الجنس:
درجة التلميذ في مادة الحساب:
نصف السنة الدراسية:
الصفحة الأولى

(1) يوضح الشكل البياني التالي عدد الأطفال الحاضرين في المدرسة في كل يوم من أيام الأسبوع.

اكتب إلى الشكل الآتي واجب عن الأسئلة الآتية:

عدد التلاميذ الحاضرين في المدرسة خلال أحد الأسبوعين.

<table>
<thead>
<tr>
<th>أيام الأسبوع</th>
<th>عدد التلاميذ الحاضرين</th>
</tr>
</thead>
<tbody>
<tr>
<td>الاثنين</td>
<td>300</td>
</tr>
<tr>
<td>الثلاثاء</td>
<td>400</td>
</tr>
<tr>
<td>الأربعاء</td>
<td>500</td>
</tr>
<tr>
<td>الخميس</td>
<td>450</td>
</tr>
<tr>
<td>الجمعة</td>
<td>550</td>
</tr>
<tr>
<td>السبت</td>
<td>400</td>
</tr>
<tr>
<td>الأحد</td>
<td>300</td>
</tr>
</tbody>
</table>

ما هو اليوم الذي كان عدد الحاضرين فيه أكبر ما يمكن?
ما هو اليوم الذي كان عدد الحاضرين فيه أقل من أي يوم آخر?
كم كان عدد الأطفال الحاضرين يوم السبت?
ذكر عدد الحاضرين يوم الاثنين؟
(2) يوضح الشكل البياني التالي عدد التلاميذ في فصل مدرسي الذين يربون في منازلهم الأرانب أو القطط أو العصافير أو السمك بحيث كل تلميذ يربي نوع واحد فقط.

ما هو الطائر أو الحيوان الذي يربيه أكبر عدد من التلاميذ؟

هل عدد التلاميذ الذين يربون القطط أكبر من عدد التلاميذ الذين يربون العصافير؟

ما هو الحيوان أو الطائر الذي يربيه عدد خمس تلاميذ فقط؟

(3) توضح الأشكال البيانية التالية متوسطات درجات تلاميذ ثلاث فصول مدرسة في كل مادة. انظر إلى الأشكال التي امامك ثم اجب الامثلة التالية.
حساب تاريخ علوم عربية

1- فصل 1
2- فصل 2
3- فصل 3

ما هي المادة التي حصلت على أقل المتوسطات في الفصل الثاني؟

ما هو الفصل الذي حصل على أقل المتوسطات في أي مادة من المواد؟

في أي فصول كان هناك متوسط 20 على الأقل في مادة واحدة؟

في أي الفصول كان هناك نفس متوسط الدرجات في الحساب؟

في أي الفصول حصل على أقل المتوسطات في مادة العلوم عن المواد الأخرى؟
رسم مرسوم بمقام رسم 1 سنتيمتر لكل 20 كيلو متر على الحقيقة.

اوجد المسافة الحقيقية بين مكانين التي يمثلها على الخريطة مسافة طوله 2/7 سنتيمتر؟

 NASCAR KILO METER

طول حسن 120 سنتيمتر، طول والده 180 سنتيمتر.

فا ما نسبة طول حسن إلى طول والده؟
الصفحة الخامسة (5)

بوضوح الجدول الآتي كيف يقضي يومًا من أيام اجازته

<table>
<thead>
<tr>
<th>ساعة ماهدة</th>
<th>لعبة</th>
<th>ساحة أكل قراءة</th>
<th>نوم</th>
<th>للمفلسون</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/10</td>
<td>3/10</td>
<td>4/10</td>
<td>2/10</td>
<td>4/10</td>
</tr>
</tbody>
</table>

ما هو نسبة ما قضى معا في 을 stataة والقراءة بالنسبة إلى 24 ساعة؟

ما هو نسبة ما قضى في العبادة واللعب معا بالنسبة إلى 24 ساعة؟

ما هو نسبة ما قضى في ماهدة الملفسون بالنسبة إلى 24 ساعة؟

ما هو نسبة ما قضى في اللبس والأكل والنوم معا بالنسبة إلى 24 ساعة؟
الملفية البانية (١)

(٧) يوجد أربع برتقالات في كل صندوق من الصناديق المرسمة امامك، ما هو عدد البقتالي الموجود في كل الصناديق التي امامك؟

اكتب الإجابة بوضوح

فضلك في السطر المنقط.

٨٠

(٨) ضع اثنين عددين بحيث يكون ناتج قسمتهما ٣ ؟

٣ = \[
\begin{array}{ccc}
\angle & \angle & \angle \\
\angle & \angle & \angle
\end{array}
\]

(٩) ضع العدد المفقود لكي تجعل عملية الجمع التالية محققة؟

\[
\begin{array}{c}
1 \\
1 \\
\vdots + \\
\hline
8 \\
3
\end{array}
\]
\[
\begin{array}{c}
\frac{333}{11} = 30
\\
16 \times 2 = 32
\\
32 \div 2 = 16
\\
32 \times 2 = 64
\\
32 \div 2 = 16
\\
32 \times 2 = 64
\\
\ldots \times \ldots = 0
\\
32 \div 2 = 16
\\
\ldots - \ldots = 0
\\
32 \div 2 = 16
\end{array}
\]
الصفحة الثامنة (8)

ما هو نوع العملية التالية من العمليات الأربعة الأساسية؟

ضع حلقة أو دائرة حول الأجابة الصحيحة من الإجابات التالية؟

٤٨٠

٤٨٠

جمع طرح ضرب قسمة

٦٦٠

٦٦٠

ما هو العدد الناقص الذي يجب وضعه بدلاً من

في عملية الجمع السابقة؟

.........................

٧٧ + ١ = ٩٢

ما هو العدد الناقص الذي يجب وضعه بدلاً من ١ في عملية

الجمع السابقة؟

.........................

٢٧٠

٢٧٠

ما هي الإجابة الصحيحة لعملية القسمة التالية؟

١٨ ÷ ٢٧٠ = ١٨
44 مضروبة في 26 تساوي 1144.

\[ 26 \times 44 = 1144 \]

ما هو ناتج قسمة 1144 على 26؟

\[ 1144 \div 26 = 44 \]

(22)

هناك عدد ناقص في كل عملية من العمليات التالية.

اكتب الأعداد الناقصة في المكان الخالي حتى تجعل العملية صحيحة؟

\[ \ldots + 8 = 168 \times 12 \]

\[ 4 = \ldots \times 8 \]

\[ \ldots + 8 = 17 - 22 \]

(23)

\[ \begin{array}{c}
\ldots \\
0.888888 + \\
\ldots \\
\hline
9.243 \\
\end{array} \]

\[ \begin{array}{c}
\ldots \\
0.888888 + \\
\ldots \\
\hline
9.243 \\
\end{array} \]
الصفحة الحادية عشر (11)

مرسم امامك اربع علب اقلام الموان.

يوجد عشر اقلام في كل علبة.

إذا أعطيت بعض هذه الاقلام إلى 31 طفلاً.

بقي كل طفل أعطى قلماً واحداً.

31 طفلاً

كم قلم يبقى من هذه الاقلام؟

الجدول التالي يعطى تاريخ الميلاد لخمسة أطفال:

الجديد التالي يعطى تاريخ الميلاد لخمسة أطفال:

اليوم الشهر السنة

أحمد 13 مارس 1907
حسن 22 يناير 1902
سامي 15 يونيو 1904
رامي 16 أغسطس 1907
عبد 21 فبراير 1900

من هو أكبر الأطفال؟

من هو أصغر الأطفال؟
السماحة الثانية عشر (١٢)

(١١)

رتب هذه الأعداد، مبدئا من الأصغر فاكثر.

٩٩ ٢٩ ٣٦ ٨٤ ٤٢ ٢١ ١٣

(٢٧)

كل عدد في الفئة A له علاقة طبقا لقاعدة ما بعدد في
الفئة B.

اكمال الأعداد الناقصة في المربيعات الخالية امامك:
الفئة A
الفئة B

(٢٨) اكمال الأعداد الناقصة في سلسلة الأعداد الآتية:
(١٠) ٥٤٤٣٢٠٠٠٠٠٠٠٠٠٠
(٧) ٥٠١٠٩٠٩٠٠٠٠٠٠٠٠٠٠

(٢٩)

رتب الكسور الخالية مبدئا بالاقل ثم الاكبر ثم الاكبر وهكذا.
ضع الكسور بعد ترتيبها في الاماكن الخالية التالية:
٨٨١ ٧١ ٦١ ٥١ ٤١ ٣١ ٢١ ١١ ٠١
المحفظة الثالثة عشر (٣٥)

انظر إمامك جيداً سوف تجد في كل عملية من العمليات الآتية ٢٠ الأعداد (٥٠ -٦٠/٦٠) ناقصة
أكتب الأعداد الناقصة في المناديق الخالية التي أمامك
تجعل العمليات صحيحة.
العملية الأولى عملت لك كنموذج يساعدك في حل العمليات الأخرى.

\[
\begin{align*}
4 & = 2 \times 20 \\
2 & = 10 + 2 \\
1 & = 10 - 9 \\
0 & = 0 \\
3 & = 10 - 7
\end{align*}
\]

لاحتِ العلاقات الموجودة امامك والتي سوف تساعدك على وضع الأعداد الناقصة فيما بعد.
وضع الأعداد الناقصة في المكان الخالي؟

\[
\begin{align*}
81 & = 9 \times 9 \\
891 & = 99 \times 9 \\
8991 & = 999 \times 9 \\
\ldots & = 9999 \times 9 \\
\ldots & = 99999 \times 9
\end{align*}
\]
الجملة تحتوي على كل الأعداد التي تقبل القسمة على
2 بدون باق.
الجملة تحتوي على كل الأعداد التي تقبل القسمة على
5 بدون باق.
جمع
1
بعض الأعداد وضعت ماماك في المثل السابق. فضع الأعداد
4 6 0 3 5 6 1 8 في ماكمهم المناسبة في المثل السابق؟

(23)

امامك أربع جمل، واحدة منهم ليست صحيحة. فضع
خط تحت هذه الجملة الفاهمة والتي ليس لها معنى?
عدد أكبر من 9 + 4 واقل من 9 = 2
عدد أكبر من 3 + 3 واقل من 2 = 6
عدد أكبر من 8 - 4 واقل من 8 = 0
عدد أكبر من 20 / 0 واقل من 3 + 0

(24)

هناك ثلاثة أعداد السابق.
ضع خط تحت الطرق التي تعمم بها الثلاث أعداد السابقة؟
الثلاث أعداد السابقة يمكن أن يقسموا تماما على
5 بدون باق.
الصفحة الخامسة عشر (5)

الثلاث أعداد السابقة يمكن أن ينقسموا تماما على 
- 12 بدون باق.
- الثلاث أعداد السابقة فردية.
- الثلاث أعداد السابقة يمكن أن ينقسموا تماما على
  8 6 9 بدون باق.
- الثلاث أعداد السابقة يمكن أن ينقسموا تماما على
  على 21 بدون باق.

(35) هناك علاقة ما بين الأعداد التي في الصف الأول والعدد الذي في الصف الثاني بطريقة ما 100. اكمل الأعداد الناقصة فيما يلي:

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>18</td>
<td>23</td>
<td>23</td>
<td>64</td>
</tr>
<tr>
<td>0</td>
<td>9</td>
<td>11</td>
<td>14</td>
<td>30</td>
</tr>
</tbody>
</table>

(36)

ظلل مثل هذا المستطيل؟

(37)

أوجد طول الحبل الذي يلف حول قطعة أرض على
شكل مستطيل بعده 20 مترا و 30 مترا؟

- 30 مترا

- 20 مترا
الصفحة السادسة عشر (16)

(38)

\[ \text{سي} = 20 \]

\[ \text{سي} = \text{كل الأعداد الصحيحة بين 1 و 100} \]

والآن عليك أن توجد قيمة س * س أرسِ حلقة حول العدد الوحيد والذي يحتوي السير على هو الوحيد الإجابة الصحيحة من الأعداد الثلاثة؟

25 50 30

(39)

س يعني كل الأعداد الصحيحة.

1. المطلوب منك إيجاد قيمة 15 + س أرسِ حلقات حول الأعداد الواحدان اللذان لا يمكن أن يكونا الإجابة الصحيحة؟

12 14 16 18 20 22 24 26 28 30 32 34 36 38 40

2. المطلوب منك إيجاد قيمة 33 - س أرسِ حلقات حول الأعداد الواحدان اللذان لا يمكن أن يكونا الإجابة الصحيحة.

22 24 26 28 30 32 34 36 38 40 42 44 46 48 50
الصفحة السابعة عشر (17)

١٠٠ )
طارت طائرة ٣٢ ساعة بسرعة ٢٨٠ كيلومترا في الساعة فقط عادت مسافة ما.
في كم ساعة تقطع الطائرة هذه المسافة إذا طارت بسرعة ٤٠٠ كيلومترا في الساعة؟

…………………………………………
…………………………………………
…………………………………………
…………………………………………
…………………………………………
…………………………………………

١٠١ )
أحمد تاجر احذية عنده ١٠٠٠٠٠ جنية اشتري احذية سعر الواحد ٥ جنحات، وبقي معه ٢٠٠ قرشاً كم حذاء اشتراه؟
…………………………………………
…………………………………………
…………………………………………
…………………………………………
…………………………………………
…………………………………………

١٠٢ )
سمى فاكهة اشترى ١٣٢٥ كيلو جرام من العنب بسعر الكيلو جرام ٦ قرش، تلق منه ٥٥ كيلوجراماً وبعده الباقى كسبه ٤٠٠ قرشاً، بكم بيع الكيلو جرام الواحد؟
…………………………………………
…………………………………………
…………………………………………
…………………………………………
…………………………………………
…………………………………………
BASIC MATHEMATICAL SKILL TEST

Z.A.A.G. KHALID

SCHOOL'S NAME

CHILD'S NAME

DATE COMPLETED

DATE of BIRTH

AGE

SEX

AGE 9 - 11
1) This graph shows children's attendance at school for each day in one week.

The number of children attending

<table>
<thead>
<tr>
<th>Number of Children Attending</th>
</tr>
</thead>
<tbody>
<tr>
<td>450</td>
</tr>
<tr>
<td>400</td>
</tr>
<tr>
<td>350</td>
</tr>
<tr>
<td>300</td>
</tr>
<tr>
<td>250</td>
</tr>
<tr>
<td>200</td>
</tr>
<tr>
<td>150</td>
</tr>
<tr>
<td>100</td>
</tr>
<tr>
<td>50</td>
</tr>
</tbody>
</table>

- - - - - - - - - - - - -

Sat Sun Mon Tues Wed Thurs

days

Which day had the highest attendance for the week?

Which day had the lowest attendance for the week?

How many children attended on Saturday?

How many children attended on Monday?
2) This graph shows the number of children in a class who own a rabbit, a cat, a bird, or a fish. Every child owns one pet.

Which pet is most popular?

Do more children own cats than birds?

Which pet is owned by only 5 children?

3) These are graphs of children's scores, showing the average scores of children on each subject for three classes. Look at the graphs and then answer the questions.
In class III which subject had the highest average?

In class II which subject had the lowest average score?

Which class had the lowest average score for any subject?

In which two classes was there an average of 20 in at least one subject?
Which two classes had the same average scores in Maths?

______ and _______

Which class had a lower average score in science than in any other subject?

______

4 A map has a scale of 20 kilometres to 1 centimetre. What would be the actual distance between two places 3½ centimetres apart on the map?

______

5 Hassan's height is 120 centimetres, and his father's is 180 centimetres. What fraction of his father's height is Hassan's?

______

Hassan's father

Hassan
6) This table shows how Sami spent one day of his holiday.

What fraction of the 24 hours was spent altogether in sleeping and reading?

What fraction of the 24 hours was spent altogether in swimming and playing?

What fraction of the 24 hours was spent in watching T.V.?
What fraction of the 24 hours was spent altogether in dressing, eating and sleeping.

7) There are 4 oranges in each box. How many oranges are there altogether?
"Write the Answer on the dotted line."

8) Make up a division sum which gives the answer 3.

9) Fill in the numbers missing from this addition sum.
10) Make up a subtraction sum which gives the answer 50.

\[ \boxed{\_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_} - \_ \_ \_ \_ \_ \_ \_ \_ \_ = 50 \]

11) Make up a multiplication sum which gives the answer 50.

\[ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \times \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \ = 50 \]

12) Draw rings round the numbers that can be exactly divided by 2.

53 44 33 25 30 304 546

13) Draw a ring round each of the even numbers.

30 42 3 5 7 89 18 87 32 13

14) What kind of sum is this?

Draw a ring round your answer.

\[
\begin{array}{c}
355 \\
11 \\
344
\end{array}
\]

Addition  Subtraction  Multiplication  Division
15) What kind of sum is this?
   Draw a ring round your answer.

<table>
<thead>
<tr>
<th>Addition</th>
<th>Subtraction</th>
<th>Multiplication</th>
<th>Division</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>245</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

16) \[22 + 33 = 55\]
What does \(55 - 33\) equal?

17) \[77 + A = 92\]
What number does \(A\) stand for?

18) \[270 \div 15 = 18\]
What is the answer to \[270 \div 18\]
19) 

23 x 14 = 322

This information will help you to answer the next question. Fill in the number missing from each sum.

23 x 7 = ______
230 x 14 = ______
23 x 28 = ______

20) Study the two examples given.

Examples:

(a) \[ \begin{array}{c} 2 \times 3 = 6 \\ 8 \times 3 = 24 \end{array} \]

(b) \[ \begin{array}{c} 2 \times 6 = 12 \\ 8 \times 6 = 48 \end{array} \]

Now write down the missing number

2 x \[ \boxed{15} \] = 30
8 x \[ \boxed{15} \] = ___

21) 

44 x 37 = 1628

Using this information, do these questions:

440 x 37 = ______
4.4 x 37 = ______
22)

24 times 26 equals 624.

What does 624 divided by 24 equal?

\[24 \times 26 = 624\]

\[624 \div 24 = \underline{_______}\]

23)

There is a number missing from each of these sums. Write the missing numbers on the dotted lines.

\[9 + 10 = 8 + \underline{____} \]

\[12 \times \underline{____} = 168\]

\[8 \times \underline{____} = 24\]

\[32 - 17 = 8 + \underline{____} \]

\[\underline{6} - \underline{3}\]

\[+ \underline{8} - \underline{\_} \]

\[\underline{9} 2 4\]

\[3 - \underline{4}\]

\[+ 1 \underline{7} 2\]

\[\underline{\_} 2 \underline{6}\]
24) Here are four boxes of pencils. There are ten pencils in each box. If 31 children were each given a pencil, how many pencils would be left?

- - - - - - pencils

31 pencils - - - - - - pencils

25) This table gives the dates of birth of five children.

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Ahmed</td>
<td>13th March</td>
<td>1957</td>
</tr>
<tr>
<td>Hassan</td>
<td>22nd January</td>
<td>1952</td>
</tr>
<tr>
<td>Sami</td>
<td>15th June</td>
<td>1952</td>
</tr>
<tr>
<td>Rami</td>
<td>16th August</td>
<td>1957</td>
</tr>
<tr>
<td>Saad</td>
<td>26th February</td>
<td>1955</td>
</tr>
</tbody>
</table>

Who is the eldest? __________
Who is the youngest? __________
26) Write these numbers in order, starting with the smallest.

92 13 43 34 29 31 77

27) Each number in set A is related by the same rule to a number in set B.

Fill in the missing numbers.

<table>
<thead>
<tr>
<th>Set A</th>
<th>Set B</th>
</tr>
</thead>
<tbody>
<tr>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>8</td>
<td>13</td>
</tr>
<tr>
<td>11</td>
<td>9</td>
</tr>
</tbody>
</table>

28) Fill in the missing numbers in these series:

(a) 4, 8, 12, ___, 20, 24, ___, 32

(b) 1, 10, 11, 20, ___, 30, 31, 40, 41
29) 
Put the following fractions in the boxes in order of size, starting with the smallest.

\[
\frac{1}{2} \quad \frac{1}{6} \quad \frac{1}{9} \quad \frac{1}{4} \quad \frac{1}{5} \quad \frac{1}{7} \quad \frac{1}{8}
\]

\[
\underline{\square} \underline{\square} \underline{\square} \underline{\square} \underline{\square} \underline{\square} \underline{\square}
\]

30) 
In each of these sums one of the signs + - \times \div \text{is missing. Write the missing signs in the boxes. The first one has been done for you.}

\[
2 \times 8 = 20 \quad - \quad 4
\]

\[
4 + 2 = 12 \quad \square \quad 2
\]

\[
4 + 6 = 16 \quad \square \quad 6
\]

\[
6 + 4 = 2 \quad \square \quad 5
\]

\[
30 + 5 = 9 \quad \square \quad 3
\]
31) Fill in the missing number -

9 x 9 = 81
9 x 99 = 891
9 x 999 = 8991
9 x 9999 = __________
9 x 99999 = __________

32) Set A contains all numbers that can be divided by 2.

Set B contains all numbers that can be divided by 5.

Some numbers have been put in already.
Put the numbers 4, 6, 10, 25 and 18 into their proper places in the diagram.
33) Here are four statements. One does not make sense. Underline it.

A number is more than $9 + 4$ and less than $9 \times 2$
A number is more than $3 + 3$ and less than $2 \times 3$
A number is more than $8 - 4$ and less than $8 + 4$
A number is more than $25 + 5$ and less than $3 + 5$

34) 21 42 105

The three numbers above are alike in some ways.
Underline the ways in which they are alike.

They can all be divided exactly by 3 and 7
They can all be divided exactly by 13
They are all odd numbers
They can all be divided exactly by 8 and 9
They can all be divided exactly by 21
35) The numbers in the top row go with the numbers in the bottom row in a certain way. Fill in the missing numbers.

<table>
<thead>
<tr>
<th>10</th>
<th>18</th>
<th>4</th>
<th>22</th>
<th></th>
<th>64</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>9</td>
<td>11</td>
<td>12</td>
<td>4</td>
<td>32</td>
</tr>
</tbody>
</table>

36) Shade in $\frac{3}{4}$ of this rectangle.

37) How many metres would be needed to go right round this rectangle?

60 metres

30 metres

-------- metres
38)

\[ M = 20 \]

\[ Y = a \text{ whole number between 1 and 100}. \]

I want to find the value of \( M \times Y \).

Draw a ring round the one number below which is the only possible correct answer.

\[ 35 \quad 100 \quad 43 \quad 54 \quad 309 \]

39)

The letter \( L \) stands for any whole number greater than 1.

I want to find the value of \( 15 + L \).

Draw rings round the two numbers below that cannot possibly be correct answers.

\[ 12 \quad 14 \quad 99 \quad 53 \quad 82 \quad 94 \]

Now I want to find the value of \( 63 - L \).

Draw rings round the two numbers below that cannot possibly be correct answers.

\[ 33 \quad 22 \quad 17 \quad 55 \quad 77 \quad 82 \]
40) An aeroplane flies 13 hours at a speed of 385 kilometres per hour. How many hours would the aeroplane take if it flew at a speed of 455 kilometres per hour?

_______ hours

41) Peter works in a shoe shop. He had £752-10 to buy shoes for the shop. He bought shoes costing 5 pounds per pair and has 210 pence left. How many pairs of shoes has he bought?

_______
Mick bought 1225 pounds of grapes at 6 pence per pound. 25 pounds were bad, but he sold the rest. He found that his profit was 450 pence. How much per pound did he sell them?
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