Instructions:
- No calculators may be used.
- All work must be completed in pencil. No tippex allowed.
- Marks have been allocated for working out.
- Rule off after each section.
- Read the instructions carefully.
- Check your work before handing in.
- Work neatly and manage your time carefully.

**QUESTION 1: MULTIPLE CHOICE**
Write down the correct answer, from within the table, on your answer page.

| a) Nineteen million, two hundred and eight thousand and seven is equal to: |
| 19 280 007 | 19 208 007 | 19 028 070 | 19 208 700 |

| b) The 6th prime number is: |
| 7 | 11 | 13 | 17 |

| c) 4\(\frac{2}{3}\) written as a decimal is: |
| 4,2 | 4,25 | 4,4 | 4,5 |

| d) \(-13 + (-5) =\) |
| -18 | -8 | 18 | 8 |

| e) 20% of R40 = |
| R4 | R25 | R420 | R8 |

| f) 677,979 rounded off to the nearest tenth is: |
| 680,0 | 677,9 | 677,98 | 678,0 |

| g) \(2 \times R99 =\) |
| R66 | R66,66 | R33 | R33,33 |

| h) The "c" in the expression, 9c², is called the: |
| variable | exponent | constant | term |

| i) \(-\frac{20}{4} =\) |
| -5 | 5 | -16 | 16 |

| j) 8 is a factor of |
| 38 | 60 | 100 | 40 |
### QUESTION 2: TRUE OR FALSE

Write down whether the following statements are true or false.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>The additive inverse of -9 is 9.</td>
</tr>
<tr>
<td>b</td>
<td>The 5 in the number 2 998.05 has the value of 5 tenths.</td>
</tr>
<tr>
<td>c</td>
<td>The next number in the pattern: 5;6;11;17 is 24.</td>
</tr>
<tr>
<td>d</td>
<td>The number 453 is equally divisible by 3.</td>
</tr>
<tr>
<td>e</td>
<td>Five to the power of zero is equal to 5.</td>
</tr>
</tbody>
</table>

### QUESTION 3: WHOLE NUMBERS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>List all the prime numbers between 40 and 50.</td>
</tr>
<tr>
<td>b</td>
<td>Use the ladder method to determine the prime factors of 150. Write the prime factors in exponential form to represent the number.</td>
</tr>
<tr>
<td>c</td>
<td>What is the LCM of 6, 15 and 12?</td>
</tr>
<tr>
<td>d</td>
<td>What is the HCF of 36 and 60?</td>
</tr>
<tr>
<td>e</td>
<td>If ( a = 4 ) and ( b = 2 ), show your working out to prove that the following equation is not true: ( (12 \div a) + (12 \div b) \neq \frac{12}{a+b} )</td>
</tr>
<tr>
<td>f</td>
<td>Round off 54 687 778 to the nearest million.</td>
</tr>
<tr>
<td>g</td>
<td>Apply BODMAS to calculate the following: ( 2 \times 3 + 10 \times 3 \div 5 = )</td>
</tr>
</tbody>
</table>

### QUESTION 4: FRACTIONS

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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</thead>
<tbody>
<tr>
<td>a</td>
<td>( \frac{3}{4} \div 100 )</td>
</tr>
<tr>
<td>b</td>
<td>( 4 \times \frac{1}{3} )</td>
</tr>
<tr>
<td>c</td>
<td>( 2 - \frac{7}{10} = )</td>
</tr>
<tr>
<td>d</td>
<td>( 1,25 + \frac{3}{4} = )</td>
</tr>
<tr>
<td>e</td>
<td>( \frac{5}{12} - \frac{2}{3} + 2\frac{1}{4} )</td>
</tr>
<tr>
<td>f</td>
<td>( \frac{4}{5} ) of a minute</td>
</tr>
<tr>
<td>g</td>
<td>( 4\frac{1}{8} \times 2\frac{2}{11} \times 7\frac{7}{12} )</td>
</tr>
<tr>
<td>h</td>
<td>( 0,4 \times 1,2 \times 0,001 )</td>
</tr>
</tbody>
</table>
### QUESTION 5: EXPONENTS

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>((4^2 - 2^3) ÷ (3^1 + 1^3))</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>b</td>
<td>((3 + 2)^2 + \frac{3}{\sqrt{1000}})</td>
<td></td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>c</td>
<td>((-0.03)^2)</td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>d</td>
<td>(\frac{2}{\sqrt{64}})</td>
<td></td>
<td></td>
<td>3</td>
</tr>
</tbody>
</table>

### QUESTION 6: FUNCTIONS AND RELATIONSHIPS

**Use the rule \( y = -5x + 1 \) to calculate the values of a, b and c**

<p>| | | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>a</td>
<td>b</td>
<td>c</td>
<td></td>
</tr>
<tr>
<td>x</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>y</td>
<td>a</td>
<td>b</td>
<td>c</td>
</tr>
</tbody>
</table>

\( y = 10x - 2 \) → 98

5 → d → 120

\( y = 10x - 2 \) → 98

### QUESTION 7: ALGEBRAIC EXPRESSIONS AND EQUATIONS:

**Calculate the value of x for the following equations:**

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>(4x = 40)</td>
<td></td>
<td>b</td>
<td>(x + 8 = 20)</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>c</td>
<td>( \frac{x}{5} = 20 )</td>
<td></td>
<td>d</td>
<td>(2x + 4 = 24)</td>
<td></td>
<td>3</td>
</tr>
<tr>
<td>e</td>
<td>(3x + 9 = 5x - 3)</td>
<td></td>
<td>f</td>
<td>(\frac{8x + 4}{4} = 5)</td>
<td></td>
<td>4</td>
</tr>
</tbody>
</table>
### QUESTION 8: NUMBER SENTENCES

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Write down an algebraic expression for the following: <em>The sum of twice a number and nine</em></td>
<td>Write down an algebraic equation for the following: <em>Five added to the product of a certain number and 2, will equal to the square of the same certain number added to 2.</em></td>
</tr>
</tbody>
</table>

### QUESTION 9: PERCENTAGES

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>Calculate 30% of R500</td>
<td>Calculate 200% of R200.</td>
</tr>
<tr>
<td>c</td>
<td>Write 45% as a simple fraction.</td>
<td></td>
</tr>
</tbody>
</table>

### QUESTION 10: INTEGERS

<table>
<thead>
<tr>
<th></th>
<th>2</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>a</td>
<td>(-9 + 8 + 5 - (-4) - (-3))</td>
<td>((-2)\times(-5) + 3\times(-4))</td>
</tr>
<tr>
<td>c</td>
<td>(\frac{-5(4)}{2(-2)})</td>
<td>-5 + (\square) = -12</td>
</tr>
<tr>
<td>e</td>
<td>What is the difference in temperature between Cape Town (26°C) and London (-9°C)?</td>
<td>Subtract -10 from -16</td>
</tr>
</tbody>
</table>

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![Cartoon](image)