Province of the



**EASTERN CAPE**

EDUCATION

**INTERMEDIATE**

**PHASE**

**GRADE 6**

**JUNE 2010**

|  |
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| **MATHEMATICS** |

**LEARNER’S NAME: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**SCHOOL: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**DISTRICT: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**MARKS: 50**

**TIME: 1 hour (allow up to 10 minutes extra time)**

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| This question paper consists of 9 pages. |

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| **INSTRUCTIONS AND INFORMATION** | |
|  |  |
| 1. | Answer all questions. |
|  |  |
| 2. | Write neatly and clearly. |
|  |  |
| 3. | Do not change numbering. |
|  |  |
| 4. | Show all your working details where necessary. |
|  |  |
| 5. | Do not use a calculator. |

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| --- | --- | --- | --- | --- | --- |
| 1. | Determine the value of the underlined/bolded digit. | | | |  |
|  | 5 4**5**9 365 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | (1) |
|  |  |  | |  |  |
| 2. | Round off86 367 to the nearest: | | | |  |
|  |  | |  |  |  |
|  | 2.1 | | 1 000 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | (1) |
|  |  | |  |  |  |
|  | 2.2 | | 10 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | (1) |
|  |  | |  |  |  |
| 3. | Fill in the missing decimal fraction represented by the box: | | | |  |
|  | 2,04 ; 2,08 ; 2,12 ; 2,16; ; 2,24 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | | | (1) |
|  |  |  | |  |  |
| 4. | Use the set of 10 digit numbers, without repeating the digit,  (0, 1, 2, 3, 4, 5, 6, 7, 8, 9) to build the following numbers: | | | |  |
|  |  | |  |  |  |
|  | 4.1 | | Smallest 6 digit number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | (1) |
|  |  | |  |  |  |
|  | 4.2 | | Largest 7 digit number \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | | (1) |
|  |  | |  |  |  |
|  | 4.3 | | Calculate the difference between the two numbers above. | |  |
|  |  | |  |  |  |
|  |  | |  | |  |
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|  |  | |  |  |  |
|  |  | |  | | (2) |
|  |  | |  |  |  |
| 5. | From the given figure answer the questions below: | | | |  |
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|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | |  |  |  |  |  | | | | |  |
|  |  | |  |  |  |
|  | 5.1 | | What **fraction** is the shaded part? | |  |
|  |  | |  | |  |
|  |  | |  | |  |
|  |  | |  |  |  |
|  |  | |  | | (1) |
|  |  | |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
|  | 5.2 | What percentage is this shaded part? |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  | (2) |
|  |  |  |  |
|  | 5.3 | Convert the shaded area to a decimal fraction |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  | (1) |
|  |  |  |  |
| 6. | Complete: the equivalent fraction  = | | (1) |
|  |  |  |  |
| 7. | Pupils in Progress Primary have to cover their exercise books with brown paper. The brown paper is sold at the school in rolls. To help the parents decide how many rolls they must buy, the school gives the following information: | |  |
|  |  |  |  |
|  | A Grade 4 pupil needs about  of a roll to cover all his/her books. | |  |
|  | A Grade 5 pupil needs about  of a roll to cover all his/her books. | |  |
|  | A Grade 6 pupil needs about 1 roll to cover all his/her books. | |  |
|  | A Grade 7 pupil needs 1½ rolls to cover all his/her books. | |  |
|  |  |  |  |
|  | Mrs Zama has a child in Grade 4, one in Grade 5 and one in Grade 7. How many rolls must she buy? | |  |
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|  |  | | (4) |

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| 8. | Recipes use a particular ratio of ingredients so that the amount of food or the number of cakes, tarts and biscuits can be varied without altering the taste or texture.  E.g. ingredients for Maggie’s cake recipe: 200 g flour, 100 g sugar, 2 eggs, 2 teaspoons baking powder, a little milk. | | | |  |
|  |  | |  | |  |
|  | 8.1 | | Write down the amount of flour to be used if the recipe is tripled (3 times) | |  |
|  |  | |  | |  |
|  |  | |  | |  |
|  |  | |  | |  |
|  |  | |  | | (1) |
|  |  | |  | |  |
|  | 8.2 | | Convert the answer above into kg. | |  |
|  |  | |  | |  |
|  |  | |  | |  |
|  |  | |  | |  |
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|  |  | |  | |  |
|  |  | |  | | (1) |
|  |  | |  | |  |
|  | 8.3 | | How much sugar will be needed if 8 eggs are used? | |  |
|  |  | |  | |  |
|  |  | |  | |  |
|  |  | |  | |  |
|  |  | |  | | (1) |
|  |  | |  | |  |
| 9. | The Nile River as the longest river in the world measures 6 695 km. Convert the length of the river into meters. | | | |  |
|  |  |  | | |  |
|  |  | | | |  |
|  |  |  | | |  |
|  |  | | | | (1) |
|  |  |  | | |  |
| 10. | A teapot holds six cups. The capacity of a cup is 250 ml. | | | |  |
|  |  | | |  |  |
|  | 10.1 | | | How many millilitres does the teapot hold? |  |
|  |  | | |  |  |
|  |  | | |  |  |
|  |  | | |  |  |
|  |  | | |  | (1) |
|  |  | | |  |  |
|  | 10.2 | | | How many litres does the teapot hold? |  |
|  |  | | |  |  |
|  |  | | |  |  |
|  |  | | |  | (1) |
|  |  | | |  |  |
| 11. | Nomsa’s younger brother was born on the 10 March 2010 at 20:15. How old was the baby on the14 April 2010 at 8:15 pm. Give the age in: | | | |  |
|  |  | | |  |  |
|  | 11.1 | | | weeks |  |
|  |  | | |  |  |
|  |  | | |  |  |
|  |  | | |  |  |
|  |  | | |  | (1) |
|  |  | | |  |  |
|  | 11.2 | | | days |  |
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|  |  | | |  | (1) |
|  |  | | |  |  |
| 12. | Mr Mdlalose is selling some live chickens. Last month he sold 512 chickens. If he sells each chicken for R56, how much money did he make? | | | |  |
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|  |  | | | | (2) |
|  |  | | | |  |

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| 13. | Nomsa is playing with matchsticks to design the following patterns: | |  |
|  |  |  |  |
|  |  | |  |
|  | **Stage 1 Stage 2 Stage3** | |  |
|  |  |  |  |
|  | 13.1 | Extend the pattern by filling in the 5tth stage: | (1) |
|  |  |  |  |
|  |  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Stage** | **1** | **2** | **3** | **5** | | **No. of matchsticks** | **6** | **11** | **16** |  | |  |
|  |  |  |  |
|  | 13.2 | How many matchsticks will be used to design stage 15? |  |
|  |  |  |  |
|  |  |  |  |
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|  |  |  |  |
|  |  |  |  |
|  |  |  | (1) |
|  |  |  |  |
|  | 13.3 | Write in your own words the rule of this pattern. |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
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|  |  |  |  |
|  |  |  |  |
|  |  |  | (3) |
|  |  |  |  |
| 14. | Complete the flow chart below by filling in the missing numbers: | |  |
|  | 20  2  38    **X7+3**  17 | |  |
|  |  |  | (2) |

|  |  |  |  |
| --- | --- | --- | --- |
| 15. | Complete the following table by filling in the missing number of faces, vertices and edges. | |  |
|  |  |  |  |
|  | |  |  |  |  |  | | --- | --- | --- | --- | --- | | **Shape** | **Name** | **No. of faces** | **No. of vertices** | **No. of edges** | |  | Rectangular prism |  |  | **12** | |  | **Tetrahedron**  (triangular pyramid) | **4** |  |  | | | (4) |
|  |  |  |  |
| 16. | Enlarge the following rectangle by doubling its dimensions (sides). | |  |

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| --- | --- | --- | --- |
|  |  |  | (2) |
|  |  |  |  |
| 1.7 | Given the shape below, **draw**: | |  |
|  |  | |  |
|  |  | |  |
|  | 17.1 | its mirror image \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | (1) |
|  |  |  |  |
|  |  |  |  |
|  | 17.2 | its rotated image at 90º anticlockwise \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ | (2) |

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|  | |  |  | | | | | | | | | | | | | |  | |
| 18. | | Complete the tally table below which shows the number of learners at Mvezo and Struben high schools, who will be watching 2010 FIFA World cup in different cities: | | | | | | | | | | | | | | |  | |
|  | |  |  | | | | | | | | | | | | | |  | |
|  | | 18.1 | **City** | | | | | **Tallies** | | | | **Frequency** | | | | |  | |
|  | |  | Durban | | | | |  | | | | 24 | | | | |  | |
|  | |  | Cape Town | | | | | ~~////~~ ~~////~~ ~~////~~ / | | | |  | | | | |  | |
|  | |  | Port Elizabeth | | | | | ~~////~~ ~~////~~ ~~////~~ ~~////~~ ~~////~~ ~~////~~ // | | | | 32 | | | | |  | |
|  | |  | Johannesburg | | | | | ~~////~~ ~~////~~ // | | | | 12 | | | | | (2) | |
|  | |  |  | | | | |  | | | |  | | | | |  | |
|  | | 18.2 | Draw a bar graph of the information above in the supplied grid below: | | | | | | | | | | | | | | (5) | |
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|  | |  | **TOTAL:** | | | | | | | | | | | | | | **50** | |