Mathematics · Grade 7

Term 1–4 | 10 questions | CAPS-aligned

TOTAL 55 MARKS

NAME AND SURNAME _____ CLASS _____ DATE _____

Instructions

1. Read all the questions carefully before you begin writing.
2. Answer all the questions on the question paper itself.
3. Show all your working where the question asks for it.
4. Write neatly. Work that cannot be read cannot be marked.
5. You may use a pencil and a ruler for drawings.
6. Calculators are not allowed.

Question	Content of the question	Marks	Obtained
1	Short questions	5	
2	Transformations on squared paper	6	
3	Triangles and prisms	5	
4	Perimeter, area, volume and surface area	16	
5	Similarity and congruence	2	
6	Transformation geometry	4	
7	Double bar graph	3	
8	Histogram	5	
9	Problem solving	4	
10	Probability	5	
	Total	**55**	
	Percentage		%

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1 Short questions

5 marks

1.1 How many degrees are there in a right angle? **(1)**

1.2 How many lines of symmetry does an equilateral triangle have? **(1)**

1.3 How many sides does a hexagon have? **(1)**

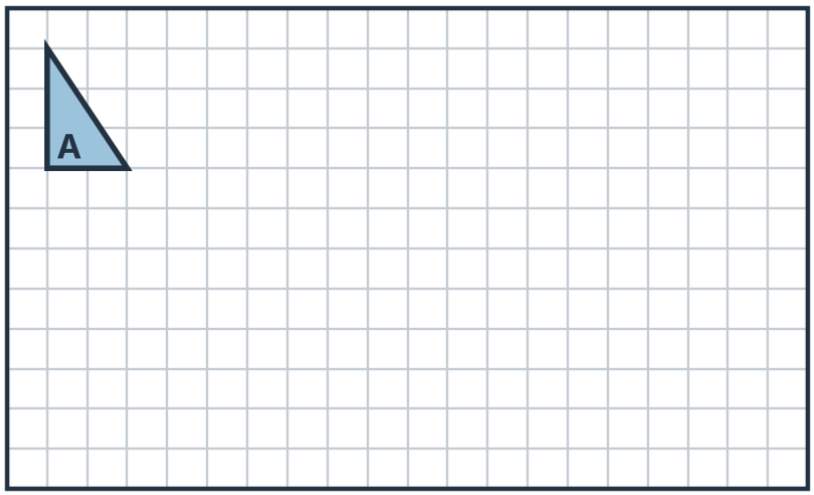
1.4 How many flat faces does a cube have? **(1)**

1.5 1 kℓ of water fills how many cubic metres? **(1)**

2 Transformations on squared paper

6 marks

2.1 Study the grid below. **(4)**



a. On the grid, draw an enlargement of triangle A with a factor of 2. Label it C.

b. Are triangles A and C congruent or similar? Give a reason.

2.2 Translate triangle A 6 squares to the right and 2 squares down. Draw the image on the grid above and label it B. **(2)**

3 Triangles and prisms

5 marks

3.1 Classify each triangle. **(4)**

a. Its sides are 6 cm, 6 cm and 6 cm: _____

b. Its sides are 5 cm, 8 cm and 5 cm: _____

c. One of its angles is 90°: _____

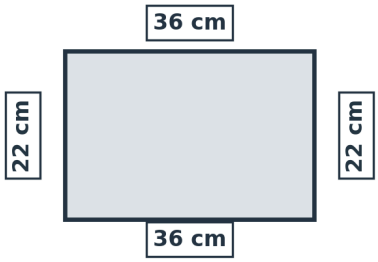
d. Is every equilateral triangle also an isosceles triangle? Explain.

3.2 How many edges does a triangular prism have? **(1)**

4 Perimeter, area, volume and surface area

16 marks

4.1 Calculate the PERIMETER and the AREA of the rectangle below. **(4)**



Perimeter: _____ Area: _____

4.2 Convert. **(2)**

a. 3 500 mm² = _____ cm² b. 2,5 m² = _____ cm²

4.3 A rectangular prism has a volume of 360 cm³. Its base is 10 cm long and 6 cm wide. Write a number sentence for the height h and solve it by inspection. **(3)**

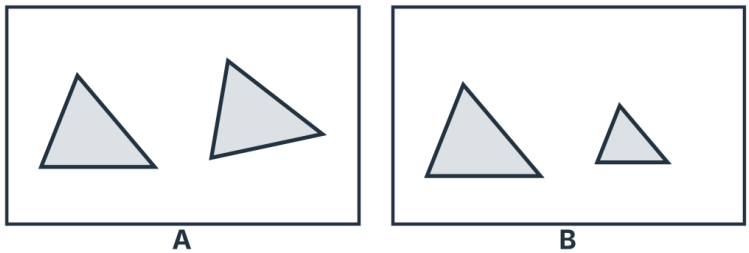
4.4 Calculate the surface area of a closed rectangular box 5 cm long, 4 cm wide and 3 cm high. Show your working. **(3)**

4.5 A flower bed is a regular hexagon with sides of 2,5 m. Edging costs R36 per metre. Calculate the cost of the edging. Show your working. **(4)**

5 Similarity and congruence

2 marks

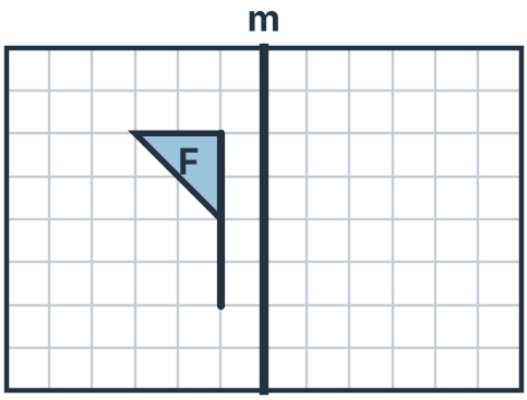
5.1 Look at the two pairs below. Which pair is CONGRUENT and which is SIMILAR? Give a reason. **(2)**



6 Transformation geometry

4 marks

6.1 Look at flag F and the mirror line m. **(3)**



a. Draw the reflection of flag F in the mirror line m.

b. Is the image congruent to F? Give a reason.

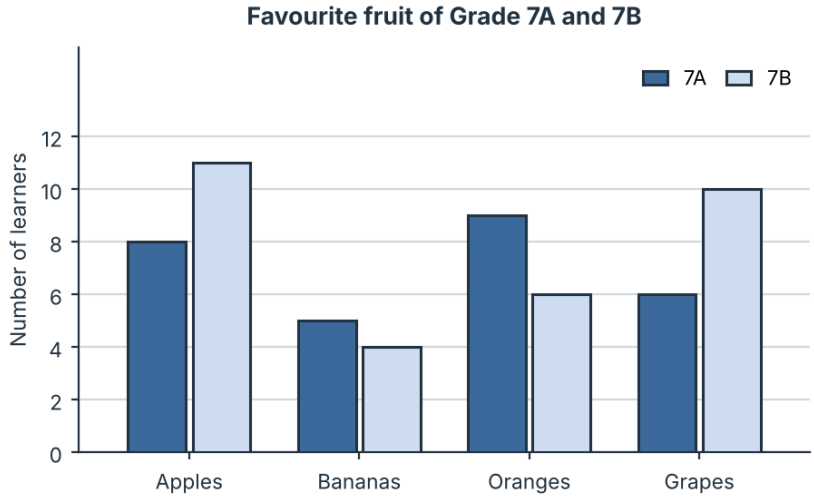
6.2 A shape is enlarged with a factor of 3. One side of the shape is 4 cm. How long is this side on the enlarged shape? **(1)**

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7 Double bar graph

3 marks

7.1 The double bar graph shows the favourite fruit of the learners in Grade 7A and Grade 7B. **(3)**



a. Which fruit is the most popular in 7B? _____

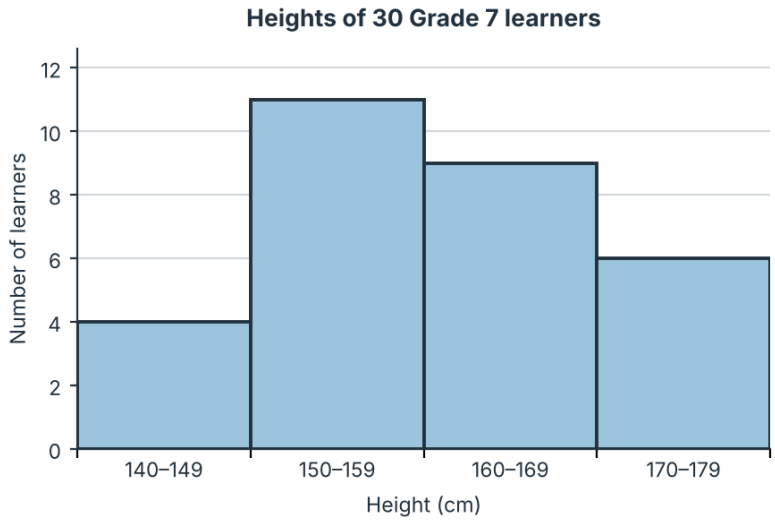
b. How many more learners in 7B than in 7A chose grapes? _____

c. How many learners in 7A were asked? _____

8 Histogram

5 marks

8.1 The histogram shows the heights of 30 Grade 7 learners. **(5)**



a. How many learners are 150–159 cm tall? _____

b. How many learners are 160 cm or taller? _____

c. Which interval has the fewest learners? _____

d. Check that 30 learners were measured: add the heights of the bars.

_____

e. Why do the bars of a histogram touch each other? _____

9 Problem solving

4 marks

9.1 A fish tank is 60 cm long, 30 cm wide and 40 cm high. a. Calculate its volume in cm³. b. How many litres of water can it hold? c. It is filled to $\frac{3}{4}$ of its height. How many litres of water are in it? **(4)**

10 Probability

5 marks

10.1 A bag has 10 buttons of the same size: 5 white, 3 black and 2 red. Lindiwe takes one button without looking. **(5)**

a. List all the possible outcomes: _____

b. What is the probability that the button is black? _____

c. What is the probability that it is red? Give your answer as a percentage.

_____

d. What is the probability that it is green? _____

e. Which colour is the most likely? _____

Total **55 marks**



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