



## TOM NEWBY SCHOOL TERM 4 FORMAL ASSESSMENT



<b>Subject</b>	<b>Mathematics</b>	<b>Examiner</b>	<b>Miss Klemp / Mrs Fourie</b>
<b>Date</b>	<b>November 2022</b>	<b>Total marks</b>	<b>75</b>
<b>Term</b>	<b>4</b>	<b>Duration</b>	<b>1½ hours</b>
<b>Grade</b>	<b>7</b>	<b>Moderator</b>	<b>Mrs Fourie</b>
<b>Special instructions/ Equipment</b>	<b>Instructions:</b> <ul style="list-style-type: none"><li>• Answer all questions.</li><li>• Read each question's instructions carefully.</li><li>• Look at the mark allocation.</li><li>• Write neatly and legibly.</li><li>• <u>NO</u> calculators.</li><li>• Not all diagrams are drawn to scale.</li></ul>		
This assessment has been compiled using notes and information contained in the Tom Newby School resource material. The marking memorandum has been compiled accordingly. While alternative responses will be given due acknowledgement, the official memorandum will be considered a priority document to ensure uniformity of marking.			

Name:	Surname:	Class:
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### QUESTION 1: Multiple Choice [10]

Select the correct answer and write the letter of the answer you have chosen on the answer grid provided.

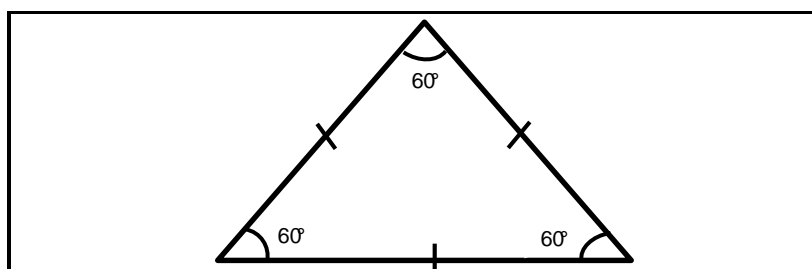
1.1 Write down the **value of p** in the following:  $p - 8 = 4$  (1)

- a. 4
- b. 6
- c. 12
- d. 2

1.2 A 2-D shape that has 7 equal sides is called \_\_\_\_\_. (1)

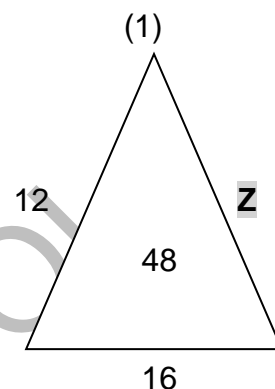
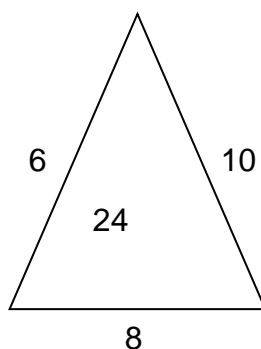
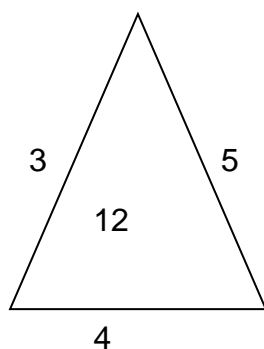
- a. Regular Pentagon.
- b. Regular Heptagon.
- c. Irregular Heptagon.
- d. Regular Nonagon.

1.3 Identify the following triangle: (1)



- a. Right angled triangle
- b. Obtuse angled triangle
- c. Equilateral triangle
- d. Isosceles triangle

1.4 What is the value of  $\underline{z}$



- a. 10
- b. 20
- c. 24
- d. 40

1.5 Label this transformation



- a. Enlargement
- b. Reflection
- c. Translation
- d. Rotation

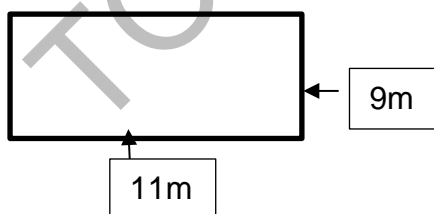
(1)

1.6 The perimeter of a square is 60cm. The length of a side is:

- a. 15cm
- b. 4cm
- c. 3600cm
- d. 20cm

(1)

1.7 The area of this shape is:



(1)

- a.  $20\text{m}^2$
- b.  $99\text{m}^2$
- c.  $40\text{m}^2$
- d.  $400\text{m}^2$

1.8 True or False: Fill in T or F on the grid. (3)

1.8.1 The additive inverse of -3 is 3

1.8.2 The sum of the interior angles of a triangle is  $360^\circ$

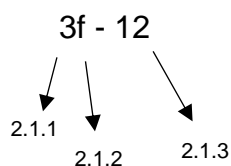
1.8.3 Negative  $\div$  Negative = Positive

**ANSWER GRID FOR QUESTION 1**

1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8.1	1.8.2	1.8.3

**QUESTION 2: Algebra [19]**

2.1. Label the following: (3)



2.1.1 \_\_\_\_\_ (1)

2.1.2 \_\_\_\_\_ (1)

2.1.3 \_\_\_\_\_ (1)

2.2. If  $a = 2$ ;  $b = 5$  and  $c = -3$ , calculate the value of:

2.2.1  $3a + 2b - c$  (3)

2.2.2  $4xc + 3b$  (2)

2.2.3  $b^2 - a^2$

(3)



2.3. Solve for x. Show all working out.

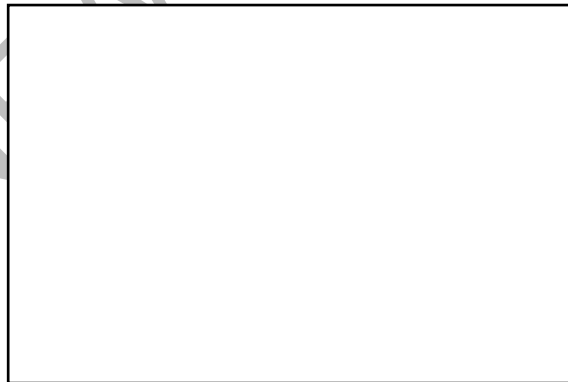
2.3.1  $3x + 2 = 14$

(2)



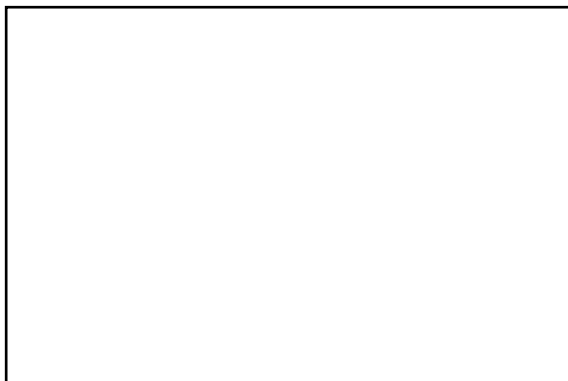
2.3.2  $28 - 5x = 3$

(3)

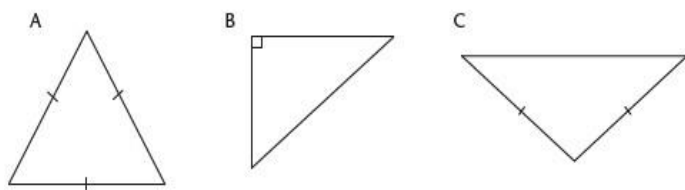


2.3.3  $\frac{27}{x} + 8 = 11$

(3)



**Question 3: Geometry [15]**



3.1 Use triangles A, B and C and answer the questions. (6)

3.1.1 Which triangle has only two sides that are equal?

\_\_\_\_\_ (1)

3.1.2 What is this type of triangle called?

\_\_\_\_\_ (1)

3.1.3 Which triangle has all three sides equal?

\_\_\_\_\_ (1)

3.1.4 What is this type of triangle called?

\_\_\_\_\_ (1)

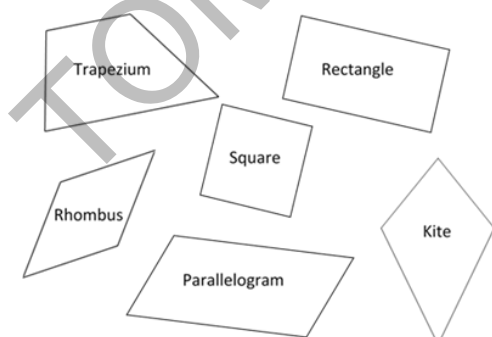
3.1.5 Which triangle has an angle equal to  $90^\circ$ ?

\_\_\_\_\_ (1)

3.1.6 What is this type of triangle called?

\_\_\_\_\_ (1)

3.2 Write down which of the illustrated quadrilaterals have the characteristics described in each question. NB There could be more than one answer. (4)



3.2.1 Only one pair of opposite sides parallel.

\_\_\_\_\_ (1)

3.2.2 Two pairs of opposite sides parallel.

\_\_\_\_\_

(1)

3.2.3) All four sides equal.

\_\_\_\_\_

(1)

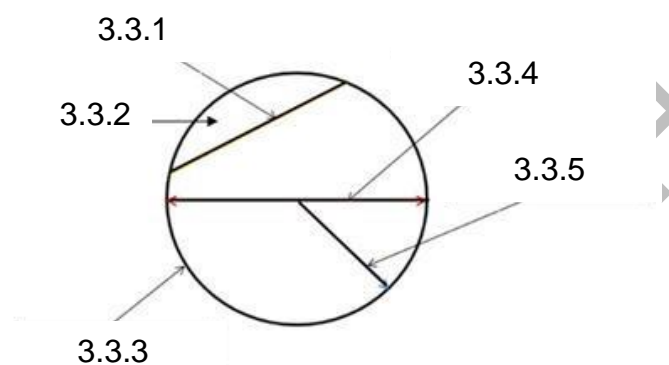
3.2.4 Two pairs of adjacent sides equal.

\_\_\_\_\_

(1)

3.3 Complete the labels to indicate the different parts of a circle:

(5)



3.3.1 \_\_\_\_\_ (1)

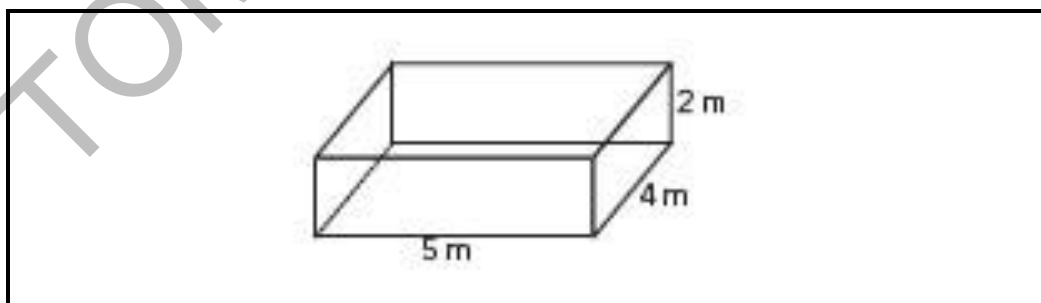
3.3.2 \_\_\_\_\_ (1)

3.3.3 \_\_\_\_\_ (1)

3.3.4 \_\_\_\_\_ (1)

3.3.5 \_\_\_\_\_ (1)

**QUESTION 4: Area, Perimeter, Surface Area, Volume [8]**

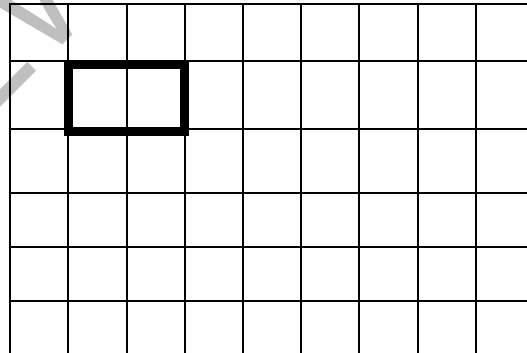


4.1 A painter must paint the sides, top and bottom of this solid object. The base is a rectangle with length 5 m and breadth 4 m. The height of the sides is 2 m. Determine the total surface area he needs to paint. (4)

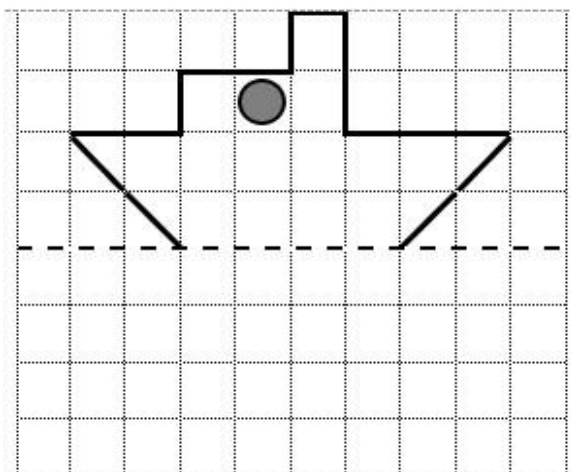
4.2 A cube has a height 30 mm. Calculate its volume and write your answer in cubic centimetres. **(4)**

**QUESTION 5: Transformation [6]**

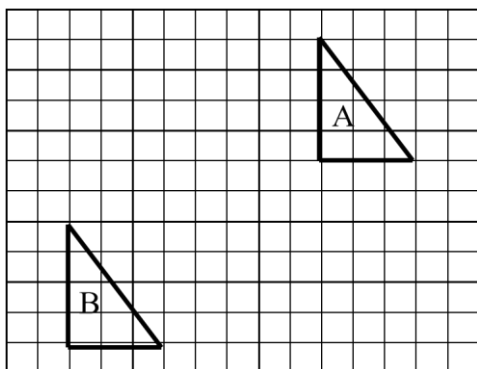
5.1 Enlarge the shape by factor 2. **(2)**



5.2 Reflect the shape on the grid paper below over the mirror line. **(2)**

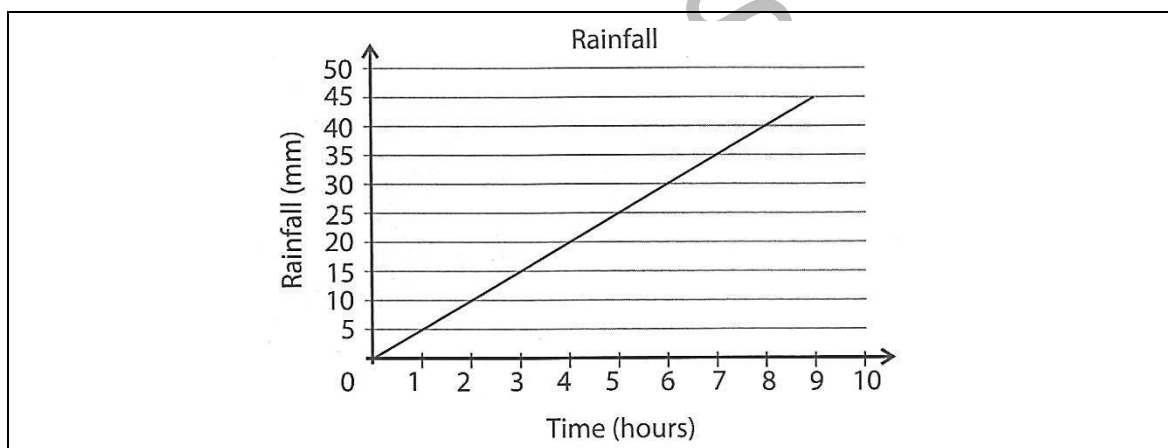


5.3 Describe the translation from A to B. (2)



**QUESTION 6: Statistics and Graphs [9]**

6.1 The graph below shows the rainfall in a particular area. Answer the questions about the graph. (3)



6.1.1 For how long was the rainfall measured?

\_\_\_\_\_ (1)

6.1.2 How much rain had fallen after 5 hours?

\_\_\_\_\_ (1)

6.1.3 Is this a linear or non-linear graph?

\_\_\_\_\_ (1)

6.2 Answer the questions about the stem and leaf diagram of a Grade 7 class. (6)

STEM	LEAF
1	0 1 3 3 4
2	1 1 2 4 5 7 7 7
3	0 0 4 5 5 7 8



6.2.1 How many learners wrote the test?

\_\_\_\_\_

(1)

6.2.2 Find the **RANGE**.

\_\_\_\_\_

(1)

6.2.3 What is the **MODE?**

\_\_\_\_\_

(1)

6.2.4 Find the **MEDIAN**.

\_\_\_\_\_

(1)

6.2.5 Calculate the **MEAN**.

(2)

**QUESTION 7: General [8]**

Calculate and write only the answers:

(8)

7.1  $4^2$  \_\_\_\_\_

(1)

7.2  $6^3$  \_\_\_\_\_

(1)

7.3  $\sqrt{121}$  \_\_\_\_\_

(1)

7.4  $\sqrt[3]{-27}$  \_\_\_\_\_

(1)

7.5  $-8 + -13$  \_\_\_\_\_

(1)

7.6  $7 \times -6$  \_\_\_\_\_

(1)

7.7  $-13 - 41$  \_\_\_\_\_

(1)

7.8  $\frac{56}{-7}$  \_\_\_\_\_

(1)

**Total: 75**

