LIMPOPO
PROVINCIAL GOVERNMENT
REPUBLIC OF SOUTH AFRICA

DEPARTMENT OF
EDUCATION

VHEMBE EAST DISTRICT

SENIOR PHASE

GRADE 8

MATHEMATICS

2022 TERM 4 COMMON TEST

NOVEMBER 2022

MARKS: 60

TIME: 1 H30

INSTRUCTIONS:

1. **Read the questions carefully before answering**
2. **Answer all questions on separate answer sheets**
3. **Write neatly and legibly**
4. **Show all your calculations**

This question paper consists of 5 pages including the cover page.

QUESTION 1 **[4 Marks]**

1.1 Choose the correct answer and write only the letter next to the question number

1.1.1 If $x - 3 = 5$, the value of x equals to

A. 2 B. 8 C.6 D.12

1.1.2 Each interior angle in an equilateral triangle =

A. 30^0 B. 60^0 C. 90^0 D.360^0

1.1.3 In a right –angled triangle the largest angle is 90^0 and the longest side opposite the right angle is called----------

A. Area B Base C. Hypotenuse D. Height

1.1.4 When reflecting about the x-axis, the---------

A. $y - value$ changes its sign and the $x - value$ remains the same

B. $x - value$ and $y - value$ remains the same.

C $y - value$ remains the same and $x - value$ changes its sign.

D. $x - value$ and $y - value$ change.

QUESTION 2 **[10 Marks]**

2.1 Simplify the following expressions.

2.1.1 $2x - y - 2y + 6x$ (3)

2.1.2 $\sqrt[3]{27a^9b^{12}}$ (2)

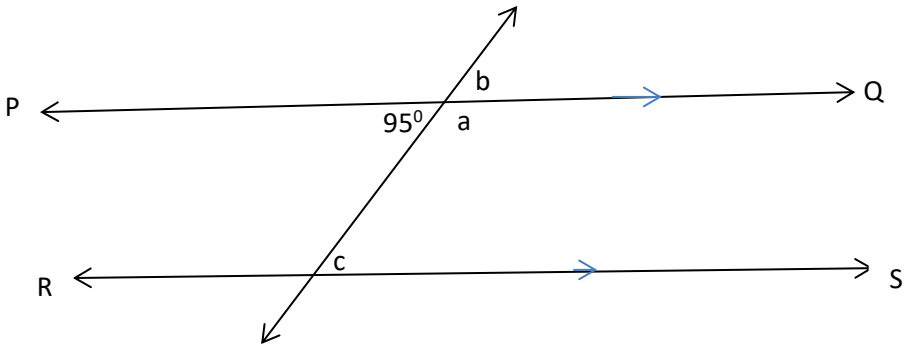
2.2 Solve the following equations.

2.2.1 $x + 4 = -3$ (2)

2.2.2 $2^x + 2 = 18$ (3)

QUESTION 3 **[12 MARKS]**

Use the figure below to answer the questions 3.1 – 3.3



3.1 Complete the table below.

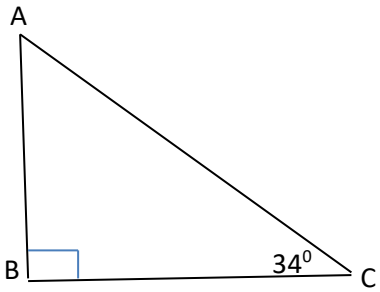
3.1.1 $95^0 +$ ---------- $= 180°$	Angles on a straight line
3.1.2 $C = 95^0$	----------
3.1.3 But $\hat{a} + \hat{c}$ = ----------	Co-interior angles

(3)

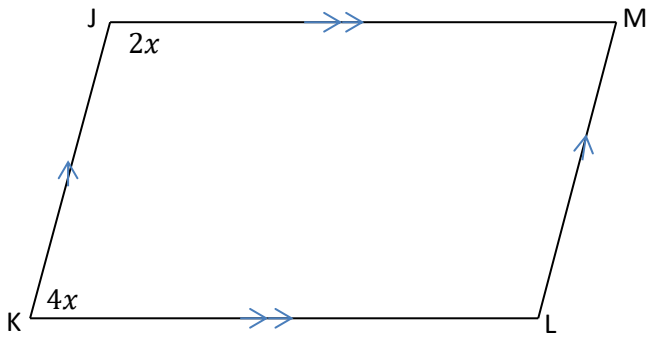
3.2 Identify a pair of letters that form corresponding angles. (2)

3.3 What is the size of b? (1)

3.4 In $\Delta ABC\ below,\ \ \hat{C} = 34^0$. Use the figure and calculate with reasons the size of $\widehat{A}$.



3.5 JKLM is a parallelogram. Determine with reasons the value of x. (4)



QUESTION 4 **[16 Marks]**

4.1 Copy and complete the table of ordered pairs for the equation $y = 3x + 1$.

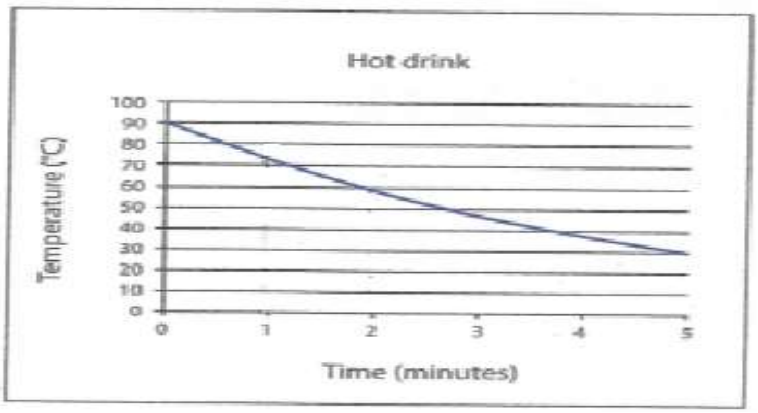
x	-2	0	2
y			

(3)

4.2 Plot the above co-ordinates on the Cartesian plane. Draw the graph

(Use the grid paper provided – ANNEXURE A) (3)

4.3 The graph shows the change in temperature of a hot drink when left to cool.



4.3.1 What is the dependent variable in the above relationship? (1)

4.3.2 What is the maximum value of this graph? (1)

4.3.3 Is this a decreasing or increasing graph? (1)

4.3.4 What is the temperature of the drink after 5 minutes (1)

4.3.5 How long does it take the temperature of the drink to drop to 60℃? (1)

4.4

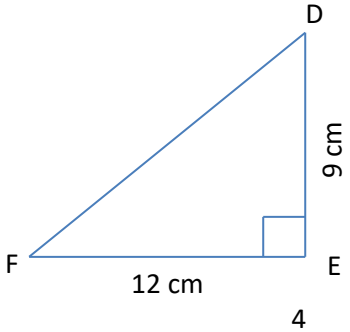
4.4.1 Draw ΔPQR, P(1 ; 3) , Q (3;-5), R (5;-1). Translate the triangle 4 units to the right and 3 units down and label it as Δ P'Q'R' (4)

[Note: Answer question 4.4.1 on the provided worksheet – ANNEXURE B]

4.4.2 Write down the coordinates of R'' if Δ PQR is reflected in the y-axis. (1)

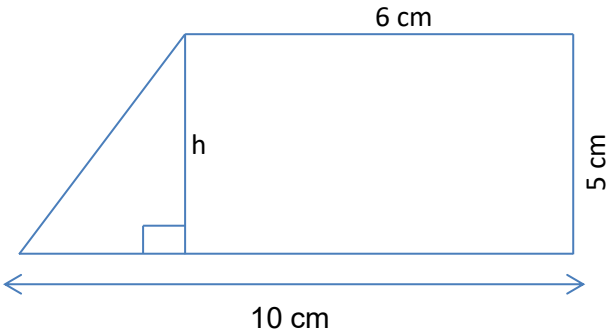
QUESTION 5 **[18 Marks]**

5.1 In the figure ΔDEF, $\hat{E} = 90^0$, DE = 9cm and EF = 12cm. Calculate the length of DF (5)



5.2 A square has an area of $250\ 000m^2$. What is the perimeter? (4)

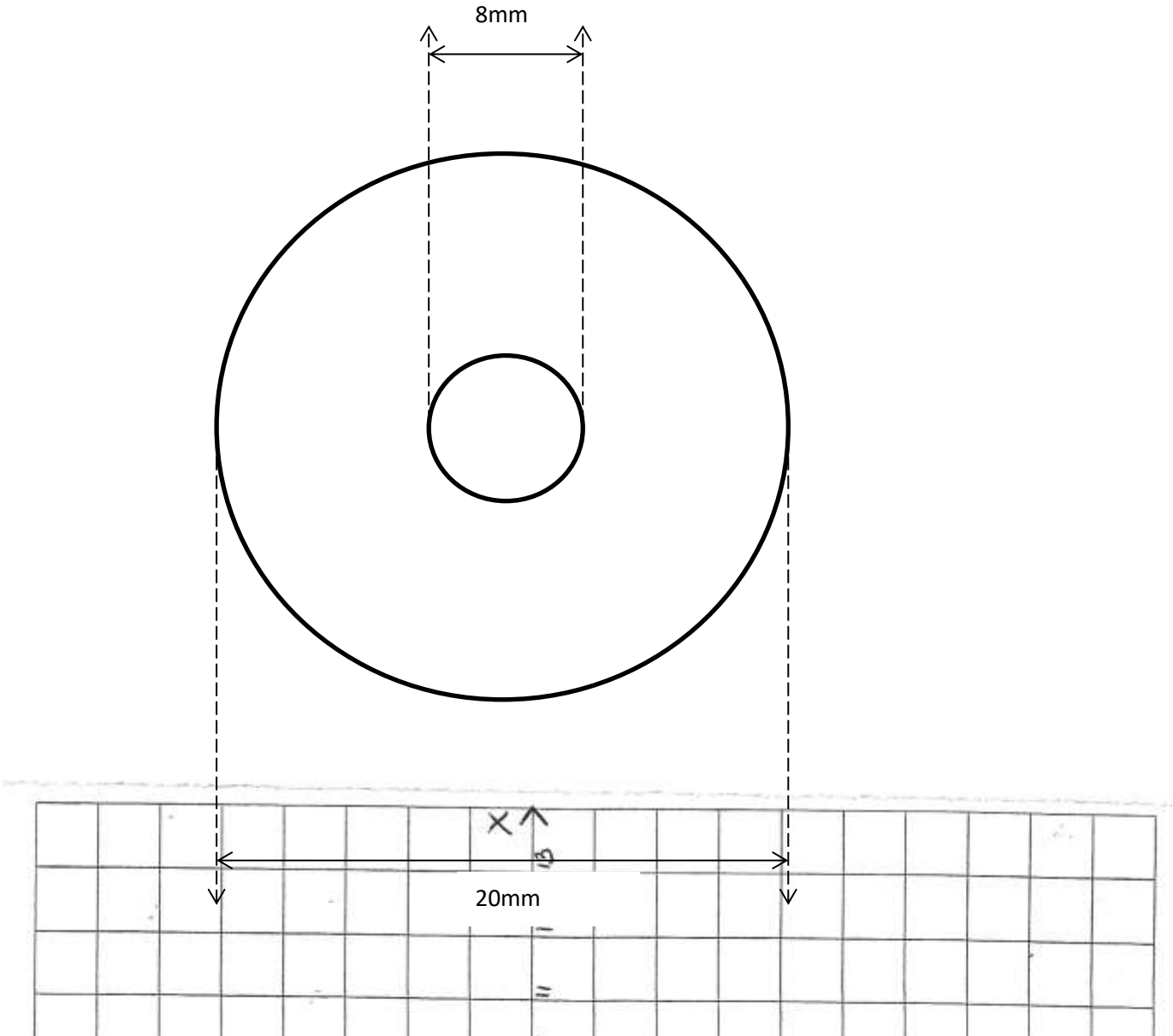
5.3 Calculate the area of the composite shape below.



(4)

5.4. A circular washer has a diameter of 20mm and contains a circular hole of 8mm.

Calculate the area (A) of the washer. Use [$\pi = 3{,}14$] (5)



ANNEXURE B

NAME:_____

ANNEXURE A

NAME:_____