SECONDARY SCHOOL ANNUAL EXAMINATIONS 2007

Educational Assessment Unit – Education Division

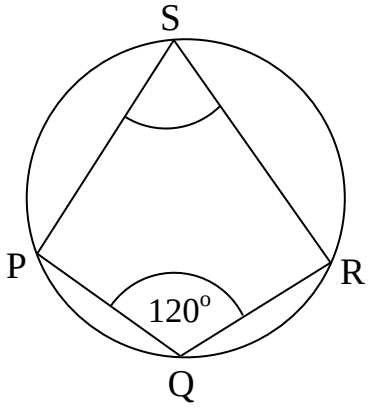
FORM 5 MATHEMATICS (Non Calculator Paper - Option C) TIME: 20 minutes

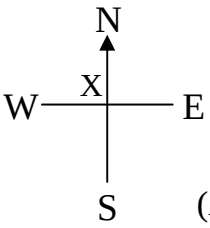
Name: _____ **Class:** _____

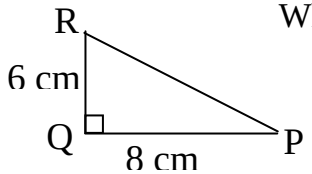
Mark

INSTRUCTIONS TO CANDIDATES

- **Answer all questions. There are 20 questions to answer.**
- **Each question carries 1 mark.**
- **Calculators, protractors and other mathematical instruments are not allowed.**
- **You are not required to show your working. However space for working is provided if you need it.**

No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
1.	Work out the value of $20 + 10 \div 2$. Ans _____	
2.	A flat shape with **5 sides** is called: (A) pentagon (B) hexagon (C) octagon (D) decagon. Ans _____	
3.	What is the next **odd** number after 15? Ans _____	
4.	In a bag there are 3 brown marbles and 7 red marbles. Jim picks a marble at random from the bag. What is the probability that he picks a red marble? Ans _____	
5.	Given that $58 \times 17 = 986$, what is the value of $986 \div 17$? Ans _____	
6.	Which **one** of the following is the **best estimate** for the **circumference** of a circle of radius 5 cm? (A) 15 cm (B) 30 cm (C) 75 cm (D) 150 cm. Ans _____	
7.	Given that $y = 2x + 1$, find the value of y when $x = -3$. Ans _____	
8.	What is the simple interest on Lm200 at 3.5% p.a. in one year? Ans _____	
9.	 PQRS is a cyclic quadrilateral in which $\angle PQR$ is 120^o. What is the size of $\angle PSR$? Ans _____	

No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
10.	The turtle starts at the position shown. Sketch the figure drawn by the turtle for this set of LOGO commands. PD FD 150 LT 90 FD 150	
11.	Rebecca was using a spreadsheet to find the area of a rectangle. In cell **A1** she typed the length. In cell **B1** she typed the breadth. Choose the correct formula that Rebecca should type in cell **C1** to obtain the **area of the rectangle**. (A) = **A1**+**B1** (B) = **A1 B1** (C) = **A1 * B1** (D) = (**A1**+**B1**) *2. Ans _____	
12.	 Martin starts at X and is facing North. He turns 270^o clockwise. What direction is he now facing? (A) North (B) South (C) West (D) East. Ans _____	
13.	5 girls obtained the following marks in a German test: 42, 63, 74, 85, 96. What is the **median** mark? Ans _____	
14.	Choose the best **estimate** for $\sqrt{65}$ from: (A) 32 (B) 56 (C) 11 (D) 8. Ans _____	

No.	QUESTION	SPACE FOR WORKING (IF REQUIRED)
15.	3484 people live in a village. Write down the population of this village correct to the nearest 100. Ans _____	
16.	The angles of a triangle are all equal to each other. The size of **each** angle of the triangle is: (A) 30^o (B) 45^o (C) 60^o (D) 90^o. Ans _____	
17.	Triangle PQR is right-angled at Q. QR is 6 cm and PQ is 8 cm. What is the length of PR?  Ans _____	
18.	The equation $y = 4x - 5$ gives a straight line graph. Choose the *y*-intercept for this graph from: A) -4 B) 4 C) 5 D) -5. Ans _____	
19.	Factorise 12a – 2b. Ans _____	
20.	The **perimeter** of a square is 16.8 cm. Work out the length of one of its sides. Ans _____	

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2007

Educational Assessment Unit – Education Division

FORM 5 MATHEMATICS (Main Paper - Option C) TIME: 1h 40min

1	2	3	4	5	6	7	8	9	10	11	12	13	Total Main	Non Calc.	**GLOBAL MARK**

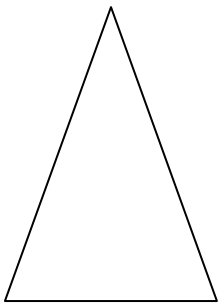
DO NOT WRITE ABOVE THIS LINE

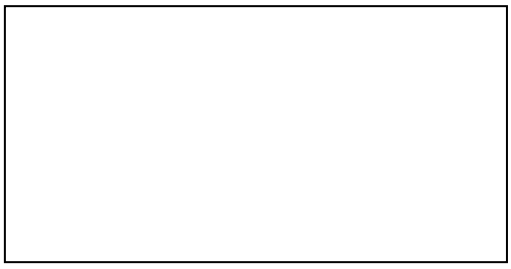
Name: _____ **Class:** _____

INSTRUCTIONS:
CALCULATORS ARE ALLOWED. SHOW ALL NECESSARY WORKING.
ANSWER ALL QUESTIONS.

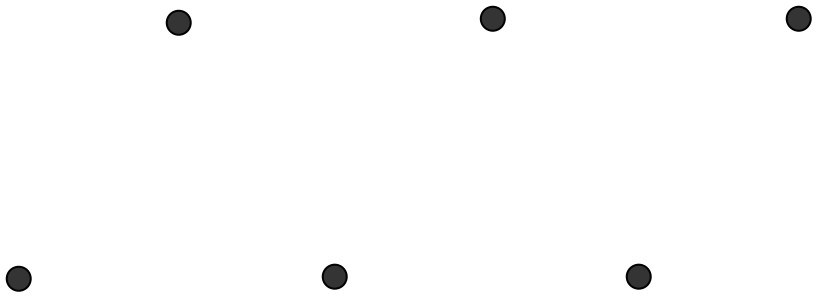
1. a) Draw the lines of symmetry in the given figures:

(i) (ii)





b) Join any three dots to draw a **triangle which has three lines of symmetry**.



(4 marks)

2. a) Write down in the blank spaces the next two numbers in the sequence:

16, 21, 26, 31, 36, ____, ____.

b) Use the formula n^{th} term = $5n + 11$ to find the value of the term when $\boldsymbol{n = 20}$.

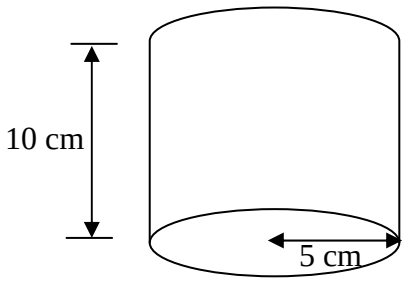
(4 marks)

3. a) Find the value of **12% of Lm250**.

b) **Increase** Lm250 by 12%.

(4 marks)

4.



The area of a circle is πr^2**.**

A cylinder has a radius of 5 cm and a height of 10 cm.

a) Work out the **area** of the circle at the base of the cylinder, giving your answer correct to 2 decimal places.

b) Calculate the **volume** of the cylinder. Give your answer correct to 1 decimal place.

(4 marks)

Name_____ Class _____

5. a) Write down 24.8 correct to the **nearest whole number**. _____

   b) Write down 317 correct to the **nearest 10**. _____

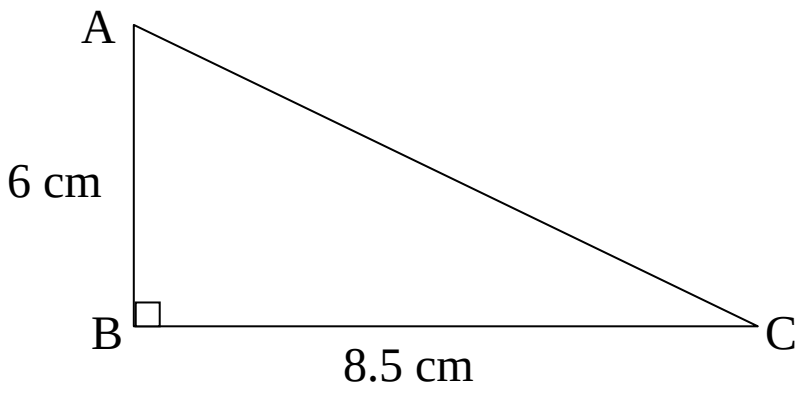
   c) Write down 4326 in **standard form**. _____

   d) Work out the **value** of 6.25×10^{-2}. _____

(4 marks)

6. Triangle ABC is right-angled at B. The length of BC is 8.5 cm and AB is 6 cm long.

   a) Work out the area of triangle ABC.



   b) Calculate the length of AC, giving the answer correct to 3 significant figures.

(5 marks)

7. The marks obtained by 10 students in a test were:

32, 45, 53, 53, 53, 55, 61, 70, 72, 86.

a) What is the **mode**? _____

b) Work out the **range** of marks. _____

c) Calculate the **mean** mark.

_____

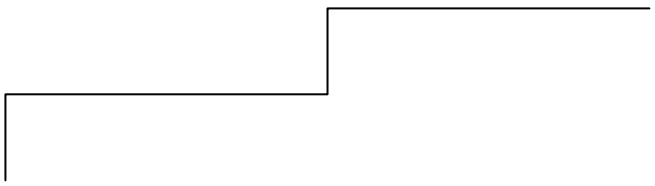
d) The teacher picks a mark at random from this set. What is the probability that it is:

(i) between 50 and 60 _____

(ii) a multiple of 5? _____

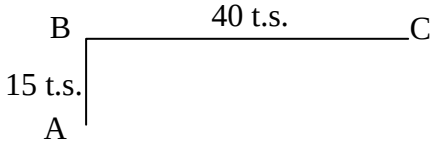
(9 marks)

8. a) The figure shows 2 stairs. Complete the given figure to draw the next stair.



b) The turtle starts at A facing upwards.

(i) Complete the LOGO commands so that the turtle arrives at C.

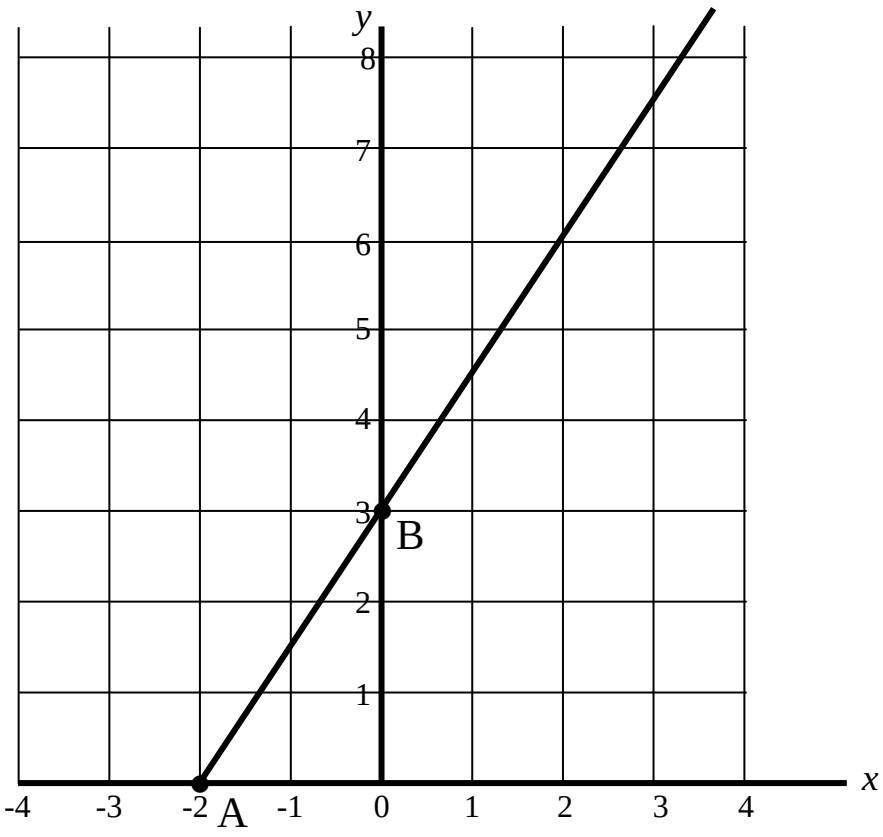


PD FD ____ RT ____ ____ 40

(ii) How many turtle steps does the turtle make to travel from A to C, following the above LOGO commands?

(7 marks)

9.



The figure shows a straight line graph that cuts the *x*-axis at A and the *y*-axis at B.

a) Write down the co-ordinates of A and B.

A = (___ , ___) and B = (___ , ___)

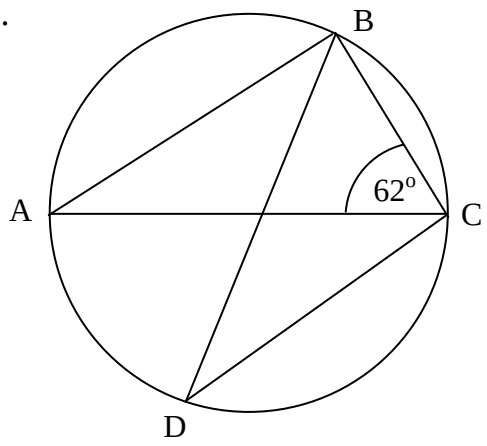
b) Is the point with co-ordinates (-1, 1) on the given line AB? _____

c) On the given grid, mark the point C with co-ordinates (2, 6).

d) Work out the gradient of the given straight line graph. _____

(6 marks)

10.



AC is a diameter of the circle. Angle ACB is 62^o.

a) What is the size of angle ABC? _____

b) Calculate the size of angle BAC.

c) Find the size of angle BDC.

(6 marks)

11. a) On the given line mark the point B such that AB is 7 cm long.
Use your protractor to draw a triangle ABC in which angle A is 50^o and angle B is 65^o.

A

b) Measure and write down the length of BC. BC = _____cm

c) Construct the **perpendicular bisector** of AB.

d) Let this bisector meet AC at D. Mark the point D.

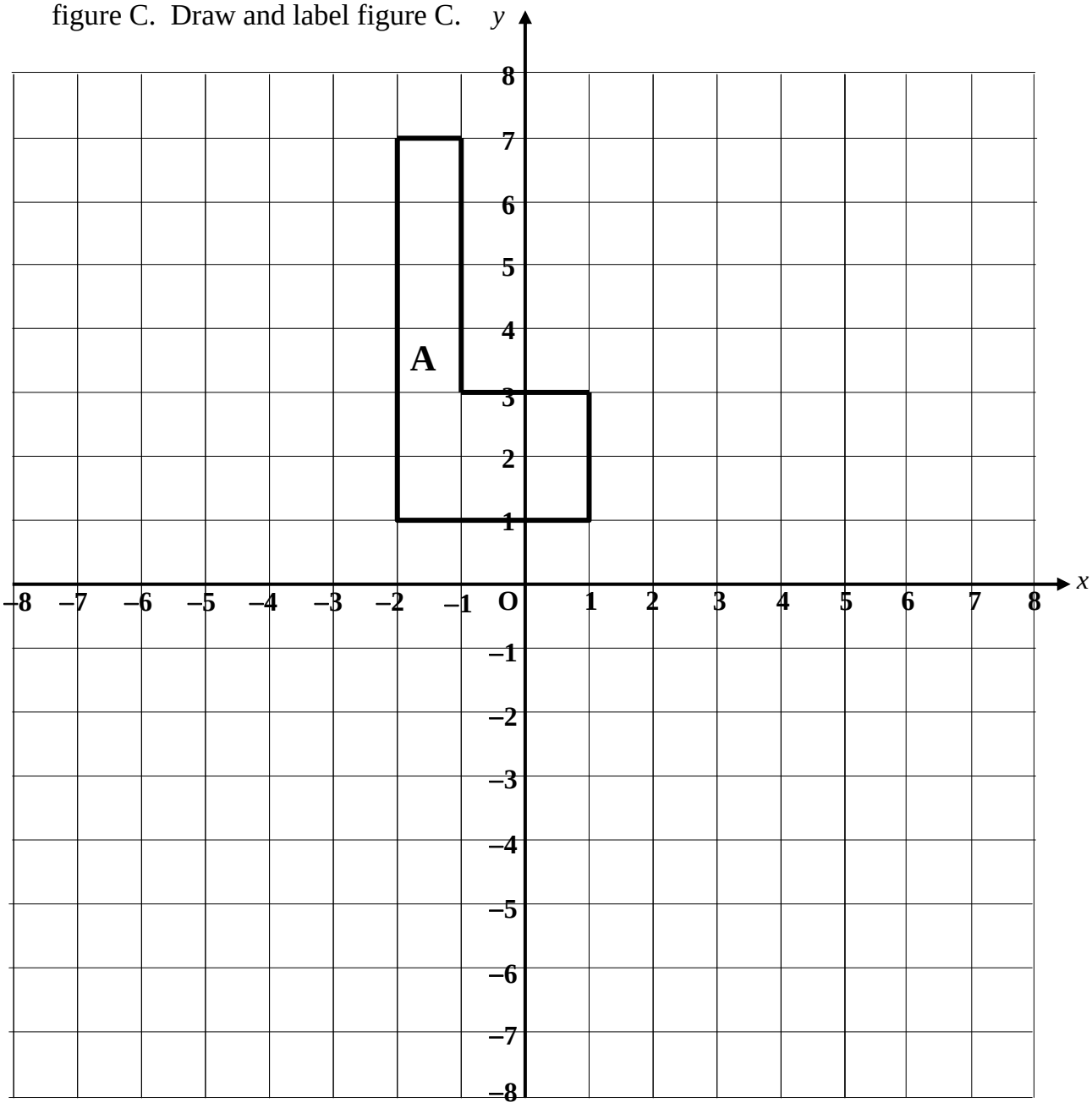
e) Measure and write down the size of angle ABD. Angle ABD = _____

(9 marks)

12. a) Use the grid provided to:

(i) **Reflect** figure A in the *x*-axis to obtain figure B. Draw and label figure B.

(ii) **Translate** figure A by moving **6 units to the right** and **4 units down** to obtain figure C. Draw and label figure C.



b) Draw a circle to show the correct column vector that translates A to C.

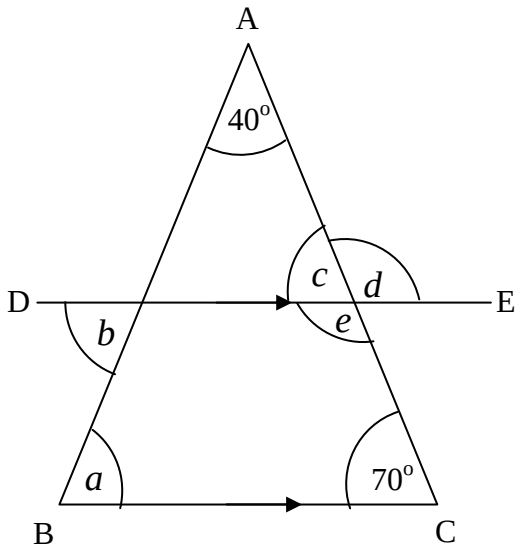
(i) $\begin{pmatrix} 6 \\ 4 \end{pmatrix}$ (ii) $\begin{pmatrix} -6 \\ 4 \end{pmatrix}$ (iii) $\begin{pmatrix} 6 \\ -4 \end{pmatrix}$ (iv) $\begin{pmatrix} -6 \\ -4 \end{pmatrix}$

c) Work out the perimeter of figure C.

_____ units

(8 marks)

13.



BC is parallel to DE.
Work out the size of the marked angles
a, *b*, *c*, *d* and *e*.

(i) angle *a* = _____

(ii) angle *b* = _____

(iii) angle *c* = _____

(iv) angle *d* = _____

(v) angle *e* = _____

(10 marks)

End of Examination