

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2007

Educational Assessment Unit - Education Division

FORM 2

MATHEMATICS
(NON-CALCULATOR PAPER)

TIME: 10 minutes

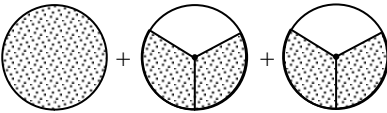

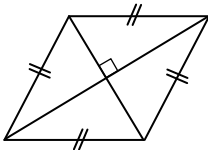
Name : _____

Class: _____

Mark

INSTRUCTIONS TO CANDIDATES

- Answer all questions. There are 10 questions.
 - Each question carries 1 mark.
 - Calculators and protractors are not allowed.
 - You are not required to show your working. However space for working is provided if you need it.
-

QUESTION	Space for working if required
1. Fill in with + or - to make the smallest possible answer: -2 5	
2. Add these fractions, giving your answer as a mixed number: <div style="text-align: center;">  </div> <div style="text-align: right;">Ans _____</div>	
3. Work out: 30.12×10 Ans _____	
4. Here are Manolito's tests results: <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div>$\frac{16}{20}$ Mathematics</div> <div>$\frac{48}{60}$ English</div> <div>$\frac{20}{50}$ Italian</div> <div>$\frac{9}{15}$ History</div> </div> <p>In which subject did he get the lowest mark?</p> <div style="text-align: right;">Ans _____</div>	
5. Find the value of: $3^2 - 1^3$ Ans _____	
6. Work out: $\frac{3}{8}$ of 40 km. <div style="text-align: right;">Ans _____</div>	
7. A teaspoon contains: <div style="display: flex; justify-content: space-around; margin-top: 10px;"> (A) 5 l (B) 5 ml (C) 50 ml (D) 0.25 l (E) 1 l </div> <div style="text-align: right;">Ans _____</div>	
8. Look at this sequence: <div style="text-align: center; margin-top: 10px;">7, 17, 27, 37, 47.</div> <p>The rule for this sequence is: Start with 7 and then _____ each time.</p>	
9. A shop offers a 30% discount. How much is saved on a printer that was marked Lm40 before the sale? <div style="text-align: right;">  </div> <div style="text-align: right;">Ans _____</div>	
10. The diagonals of this quadrilateral meet at right angles. Which of these words best describes it? <div style="text-align: right;">  </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> (A) parallelogram (B) rhombus (C) kite (D) rectangle </div> <div style="text-align: right;">Ans _____</div>	

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2007

Educational Assessment Unit - Education Division

FORM 2

**MATHEMATICS
(MAIN PAPER)**

TIME: 1h 50min

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Non- Calc	Global Mark
Mark																		

DO NOT WRITE ABOVE THIS LINE

Name: _____

Class: _____

Calculators are allowed but all necessary working must be shown

ANSWER ALL QUESTIONS.

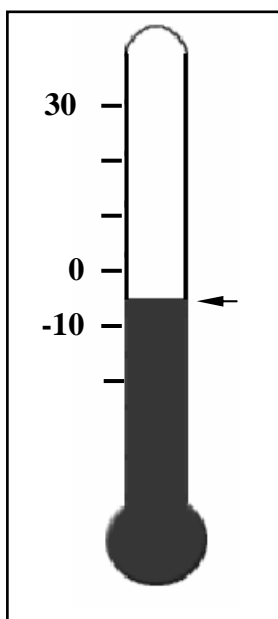
1. Evaluate:

(a) $\sqrt{1.96 + 0.29} =$ _____

(b) $\frac{6.069}{1.7^2} =$ _____

(4 marks)

2.



The diagram shows a thermometer marked in °C.

(a) Fill in the **three** missing numbers on the scale.

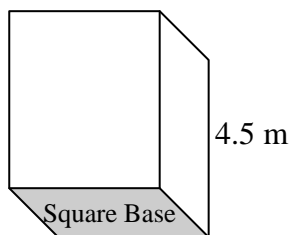
(b) The temperature shown by the arrow is _____ °C.

(c) The temperature goes **down** by 1°C.

The arrow now points at _____ °C.

(4 marks)

3.



The cuboid has a **square base** of area 9 m^2 .

(a) How long are the sides of the base?

Length = _____ **m** *Breadth* = _____ **m**

The **height** of the cuboid is 4.5 m.

(b) What is the **volume** of the cuboid?

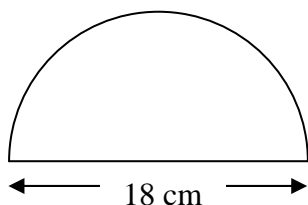
_____ **m³**

(c) How many **faces** does the cuboid have?

_____ **faces**

(4 marks)

4.



The diameter of the semicircle is 18 cm.

(a) What is the length, correct to **1 decimal place**, of the **curved** part of the semicircle?

_____ **cm**

(b) What is the distance **all** around the shape?
Give the answer correct to the nearest whole cm.

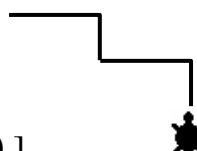
_____ **cm**

(4 marks)

5. (a) Fiona wants to draw this diagram using **LOGO**.

Her commands are:

PD REPEAT 2 [FD 10 RT 90 FD 20 RT 90]



(i) She made one **mistake**. Circle her **mistake** above.

(The turtle is shown at the starting position.)

(ii) Fill in: The turtle travels _____ **turtle steps** in all.

(b) Using a spreadsheet, Mr. Briffa made up this table to show the number of people at a parents' meeting.

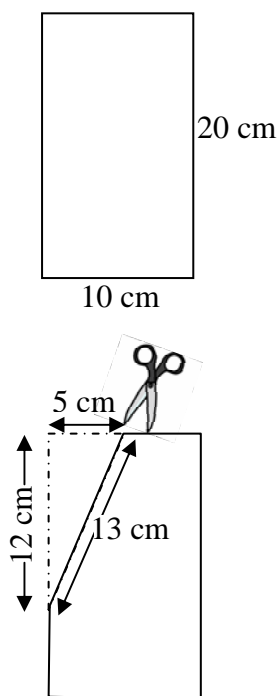
	A	B
1	MEN	37
2	WOMEN	63
3	TOTAL	100

Write a formula to obtain the result of cell **B3**.

= _____

(4 marks)

6.



A cardboard is in the shape of a rectangle 10 cm by 20 cm.

(a) Find the area of the **whole** cardboard.

_____ cm^2

(b) A corner is **cut off** as shown.

Find the area of the **remaining** cardboard.

_____ cm^2

(c) What is the **perimeter** of the remaining cardboard?

_____ cm

(d) Give the answer for the perimeter correct to nearest metre.

_____ **m**
(6 marks)

7.

(a) Complete the table. Tick ✓ where correct.
(The first one is done for you)

Number	Is less than $\frac{1}{2}$	Is greater than $\frac{1}{2}$
1		✓
0.25		
$\frac{1}{5}$		
3%		
$\frac{3}{4}$		

(b) Arrange in order of size, smallest first: 1, 0.25, $\frac{1}{5}$, 3%, $\frac{3}{4}$
_____, _____, _____, _____, _____.

(6 marks)

8. Fill in

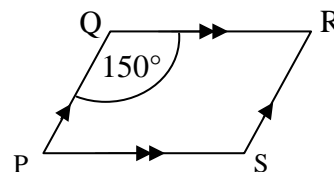
(a) PQRS is a _____ (square, rectangle, parallelogram, rhombus).

(b) Angle S = Angle ____ (P, Q, R)

(c) Size of angle P = _____°

(d) PQRS has rotational symmetry of order _____.

(e) PQRS has one line of symmetry. _____ (Yes/No)



(6 marks)

9. (a) How many hours and minutes are there between 10.45 a.m. and 1.15 p.m.?

____ hours ____ minutes

(b) List all the **factors** of 12. _____, _____, _____, _____, _____, _____.

(c) Write the **square** number that is greater than 10 but smaller than 20. _____

(d) Write the two **prime** numbers which add up to twelve. _____, _____.

(e) Write a decimal number that is **between** 0.1 and 0.2. _____.

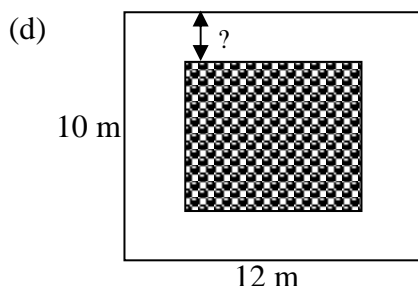
(6 marks)

10. A local council's meeting room is a rectangle of sides 12 m by 10 m.

(a) Use a scale of **1 cm to represent 2 m** to draw a plan of this room.

(b) What is the length of a diagonal on the **plan**? _____ cm

(c) How far apart are the opposite corners of the actual **room**? _____ m

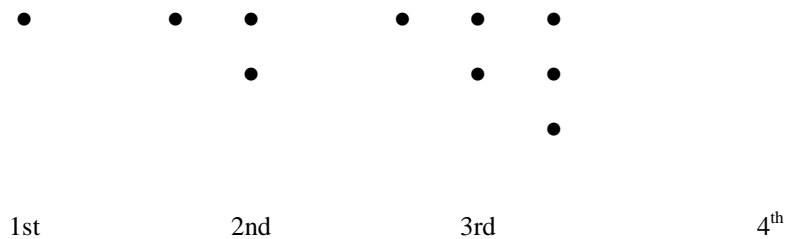


A carpet 10 m by 8 m is placed **exactly** in the **middle** of the room, leaving a border all around. How wide is the **border**?

_____ m

(6 marks)

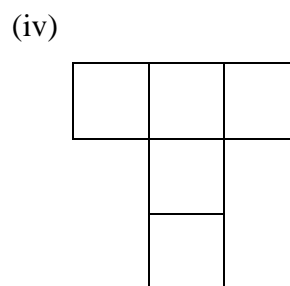
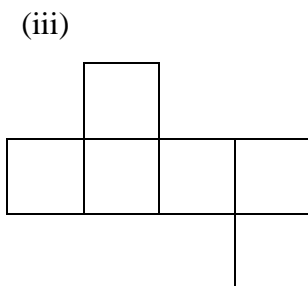
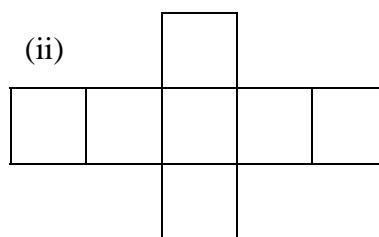
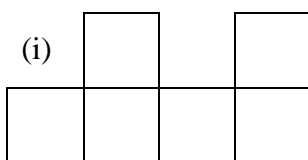
11. (a) (i) Draw the 4th pattern.



- (ii) Complete the table below:

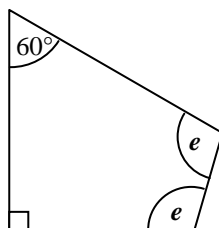
Pattern	1 st	2 nd	3 rd	4 th	5 th	8 th
Number of dots	1					

- (b) Which of the following is the net of a cube?



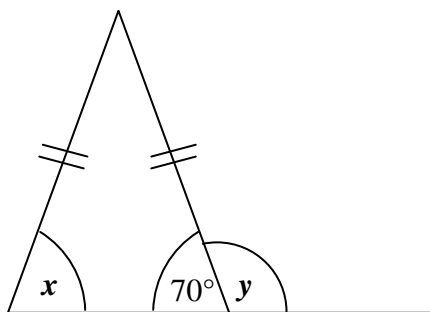
(8 marks)

12. (a) Find the size of one of the angles marked e .



°

(b)

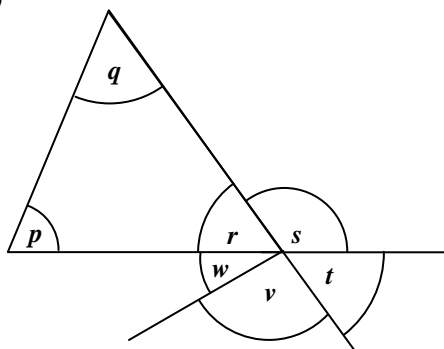


Find the size of each angle marked with a letter.

$$x = \underline{\hspace{2cm}}^\circ$$

$$y = \underline{\hspace{2cm}}^\circ$$

(c)



Fill in each space with a letter:

(i) $r + \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = 180^\circ$

(ii) $s + \underline{\hspace{1cm}} = 180^\circ$

(iii) $r = \underline{\hspace{2cm}}$

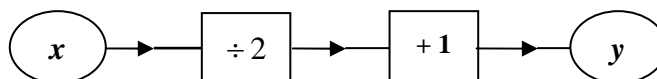
(8 marks)

13. (a) An apple costs m cents. 4 apples cost 60 cents.

Write an equation in m and solve it.

- (b) (i) Use the function machine to complete the table.

x	0	6	10	
y	1	4		11



- (ii) Complete the equation to describe the function.

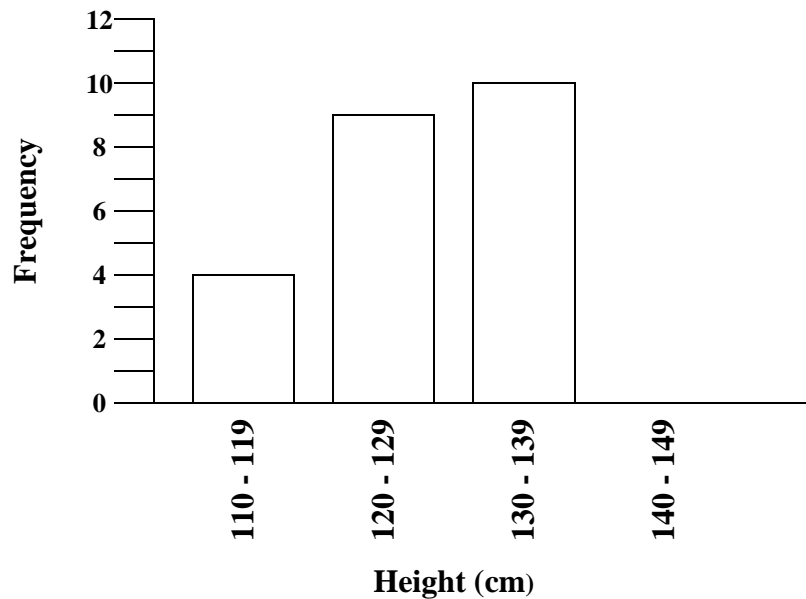
$$\underline{\hspace{1cm}}x + \underline{\hspace{1cm}} = y$$

- (c) $p = 3q - r$. What is the value of p , when $q = 8$ and $r = 4$?

$$p = \underline{\hspace{2cm}}$$

(8 marks)

14. Annabel measures the height of everyone in her class, correct to the nearest centimetre and **begins** to draw a bar chart using the data.



- (a) Complete the frequency table.

Height (cm)	110 - 119	120 - 129	130 - 139	140 - 149
Frequency	4			
TOTAL				25

- (b) Complete Annabel's bar chart.

- (c) The heights of the 4 students less than 120 cm tall are:

114 cm, 118 cm, 117 cm and 110 cm.

- (i) What is their **mean** height?

_____ cm

- (ii) What is the **range** of their height?

_____ cm

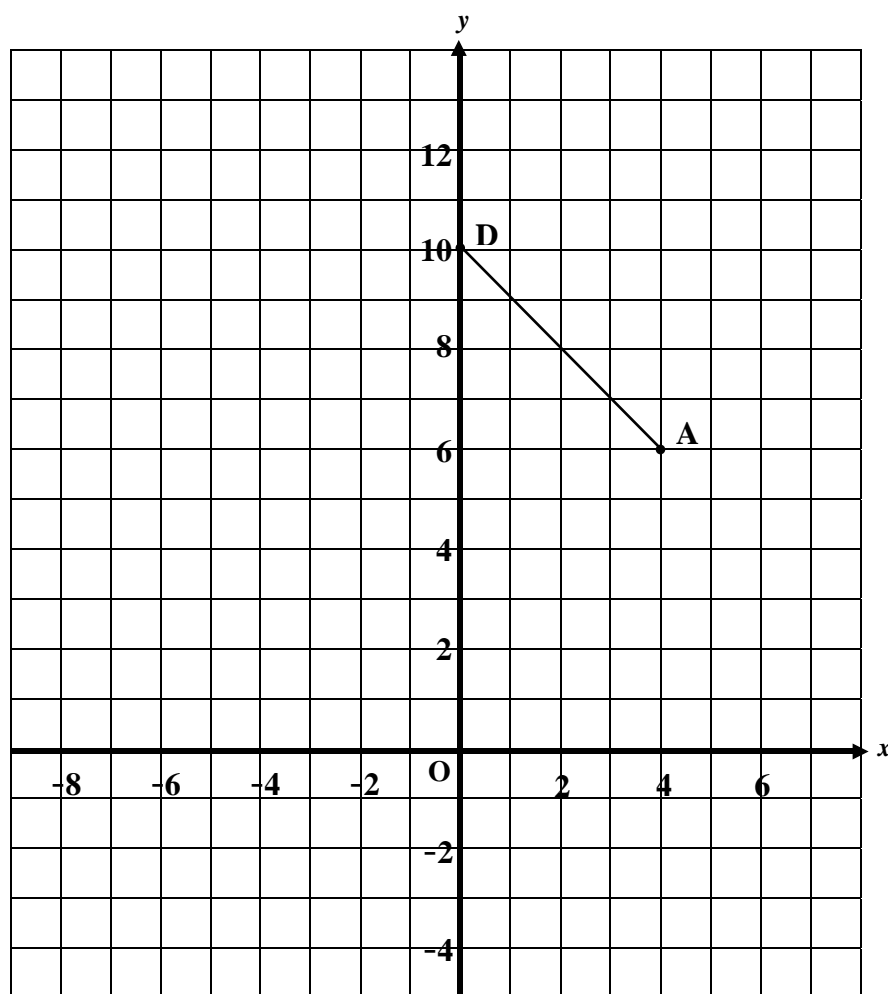
- (d) What **fraction** of the whole class is between 120 and 139 cm in height?

- (e) A student is chosen at random.

What is the **probability** that the student is 109 cm tall?

(8 marks)

15.



(a) Fill in:

(i) The co-ordinates of A are (____, ____) (ii) The co-ordinates of D are (____, ____)

(b) Plot point C ($-8, 2$).

(c) A, C and D are three vertices of a rectangle ABCD. **Complete** the rectangle and **label point B** on your diagram.

(d) Fill in: The co-ordinates of B are (____, ____).

(e) Draw the diagonals of ABCD and write the co-ordinates of the point of their intersection, M.

M = (____, ____)

(f) The diagonals AC and BD meet to form an **angle** of _____°.

(g) The rectangle cuts the x - axis at two points. **Label** these points P and Q.

(8 marks)

End of Paper

