DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2013

Levels 7-8

FORM 1 **MATHEMATICS** **TIME: 30 minutes**
Non-Calculator Paper

Question	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**Total**
Mark									

DO NOT WRITE ABOVE THIS LINE

Name: _____ **Class: _____**

Instructions to Candidates

- **Answer all questions.**
- **This paper carries a total of 25 marks.**
- **Calculators and protractors are NOT allowed.**

1. A chocolate bar costs €1.45 and a cake costs 55cent.
What change does Marvic get from €10 if she buys **4** chocolate bars and **4** cakes?


55c

€1.45 

Ans: _____

(2 marks)

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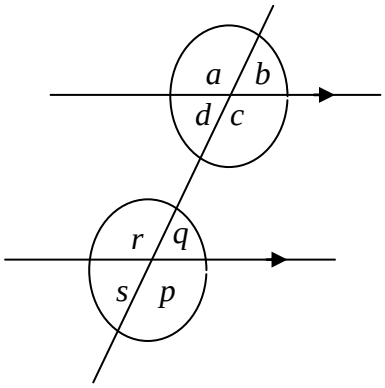
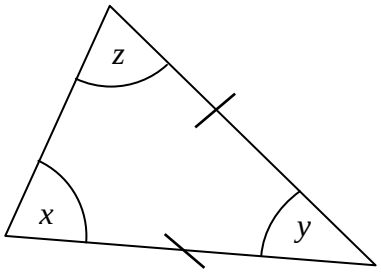
2. The temperature in a fridge is 4ºC and that in a freezer is −18ºC. How many degrees colder is the freezer?

Ans: _____ºC

(1 mark)

3.





Look at the diagrams and tick (✓) the correct equations:

(i) $a = c$ ☐

(ii) $a = q$ ☐

(iii) $s = d$ ☐

(iv) $x = z$ ☐

(4 marks)

4. Work out:

a) How many **hundreds** are there in one million?

_____ hundreds

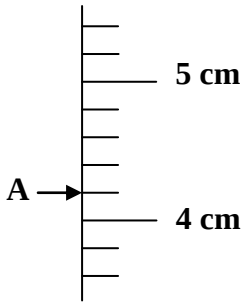
b) Anna lives 1.24 km away from school. What distance does she walk altogether to and from school during a normal **school week**?

_____ km

c) ☐ % of 200 = 100

d) Fill in with < or > :

$$\left(\frac{1}{2}\right)^2 \square \quad \frac{1}{2}$$

e) 

The arrow at **A** is pointing at:

_____ cm

(5 marks)

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5. What number is 23 less than 23 × 91?

Ans: _____

(1 mark)

6. One morning Samuel decides to cover the whole school running track.

He first runs $\frac{1}{8}$ of the track and then walks $\frac{1}{4}$ of it. He does this **twice**.

a) What **fraction** of the whole track has he covered **in all**?

Ans: _____

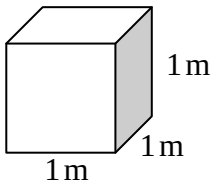
b) The track is $\frac{1}{2}$ km long. How far is he from the finish line?

Ans: _____m

c) Can he repeat the run and walk action **once** more so as to cover the track **exactly** once? Explain.

(5 marks)

7. How many cubes of side 1 cm fit in a cube of side 1 m?



Ans: _____ cubes

(2 marks)

8. Evaluate:

a) $4 + 0.4 + 0.004$

Ans: _____

b) $7 \times 10^2 + 1$

Ans: _____

c) $\sqrt{\frac{4}{9}}$

Ans: _____

d) $-3 \times (-2)$

Ans: _____

(5 marks)

END OF NON CALCULATOR PAPER

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LEVELS 7 - 8

FORM 1 **MATHEMATICS** **TIME: 1h 30min**

Main Paper

Question	1	2	3	4	5	6	7	8	9	10	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. a) Fill in the missing terms in the following sequences.

(i) 5, 9, 13, 17, ____.

(ii) 2, 3, 5, 8, 12, ____, ____.

(iii) $\frac{1}{23}$, ____, $\frac{4}{25}$, $\frac{8}{26}$, $\frac{16}{27}$, ____.

b) Find the mystery number when:

- it is **smaller** than 50,
- it is a **square** number,
- 4 is one of its **factors**,
- it is a **multiple** of 3.

Ans: The mystery number is _____

(8 marks)

2. a) Last year Joel went for a holiday from 30 **July** till 1 **September**.
How long was his holiday in days, if both days are included?

Ans: _____ days

b) (i) Bus K leaves the terminus every 20 minutes starting from 07:00.
Janice arrives at the terminus at 07:25. How long will she wait for the next Bus K, if it leaves on time?

Ans: _____ minutes

(ii) How many of Bus K leave the terminus by 9:00 am?

Ans: _____ buses
(6 marks)

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3. Lora and Daniel are **12** years old and **9** years old respectively.
a) (i) Write the ratio of Lora's age to Daniel's age in its **simplest form**.

Lora **:** Daniel

_____ **:** _____

(ii) When they visited him, Uncle Paul gave them money in the ratio of their ages. Lora received €20. How much did Daniel receive?

Ans: €_____

b) The height of a soft toy is 3 cm in a catalogue **picture**. What is its **actual** height if a scale of **1:10** is used?

Ans: _____

(4 marks)

Name: _____ **Class:** _____

LEVELS 7 - 8

4. a) Romina obtained the following marks last year: 72 56 50 42 55

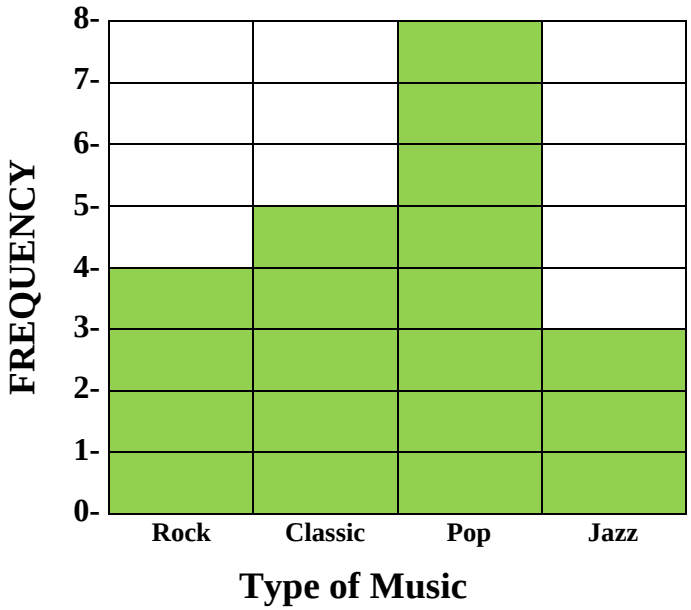
(i) Work out her **mean** mark.

Ans:_____ Mean mark

Her friend James obtained the following marks: 56 66 71 52 42

(ii) He said, "My **median** mark is higher." **Show** if he is **correct** or **not**.

b) Mr Vella asks a group of boys which is their favourite music. The bar chart shows the result.



(i) How many boys took part in this survey?

Ans: _____

(ii) What is the **probability** that jazz is the favourite?

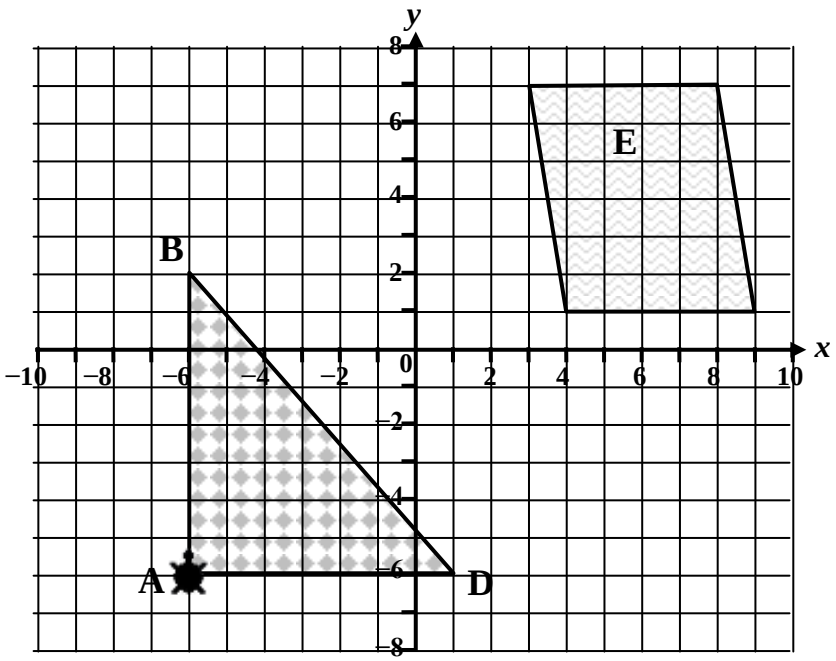
Ans: _____

(iii) Express the answer to (ii) above as a **percentage**.

Ans: _____ %

(7 marks)

5.



a) (i) Shape **E** is a parallelogram because it has_____.

(ii) Draw the diagonals of parallelogram **E**.

(iii) The diagonals meet at the point with coordinates (___ , ___).

b) (i) Describe triangle **ABD** choosing 2 types from below:

Equilateral, scalene, isosceles, acute angled, right-angled.

Ans: _____ and _____ triangle.

(ii) The **base** of triangle **ABD** is 7 units long. What is its **height**?

Ans: _____ units

(iii) Calculate the **area** of triangle **ABD**.

Ans: _____ square units

(iv) Fill in the spaces to write the coordinates of 4 points on side **AB**.
(The first one is done for you.)

(-6 , -5) (___ , -4) (___ , 0) (___ , ___)

(v) Write the **equation** of line **AB**.

Ans: ___=_____

(vi) Plot a **fourth** point **C** to change the triangle into the rectangle **ABCD**.

c) Complete the Logo commands to trace rectangle **ABCD**.
(Turtle is positioned at start and end.)

PD REPEAT 2 [FD ___ RT 90 FD 7 ___ 90]

(15 marks)

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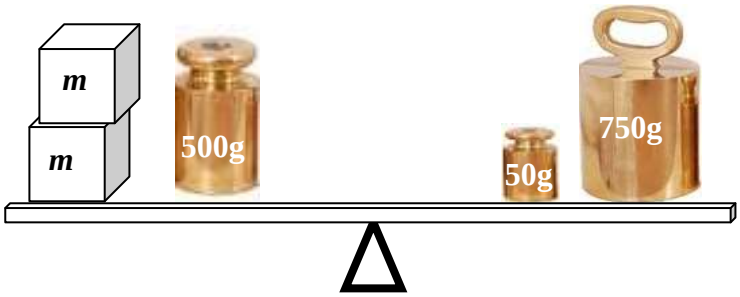
6. a)

P	Q	R	S	T	U
$5n - 1$	$n + n + n + n$	$n \times 4$	$n \times n \times n \times n$	$n + 3n$	$3 + n$

Which **3** cards simplify to $4n$?

Ans: _____ _____ _____

b) (i)



Each cube weighs m grams. Write an **equation** to represent the scales.

Ans: _____

(ii) Solve the equation to find the weight of **one** cube.

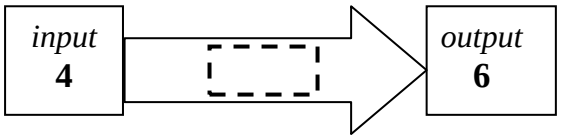
Ans: m = _____g

c) Simplify: $3(x + 4y) - 5y$

Ans: _____

(8 marks)

7.



a) Fill in a rule for the number machine shown above.

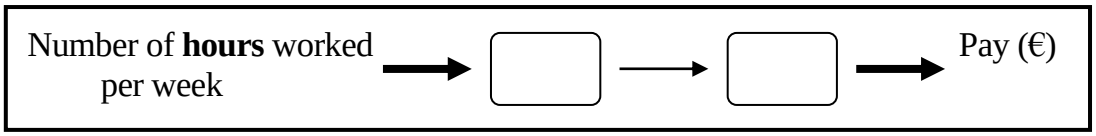
Now complete the rule using letters, taking ***n*** as input and **T** as output.

T = _____

b)

(i) Ian takes a summer job. He is paid €5 for every hour he works plus €15 per week. Complete the number machine to show Ian's weekly pay, choosing from:

× 15	**+ 15**	**× 5**	**+ 5**	**+ 20**



(ii) Ian worked a total of **25 hours** last week. How much did he earn in all?

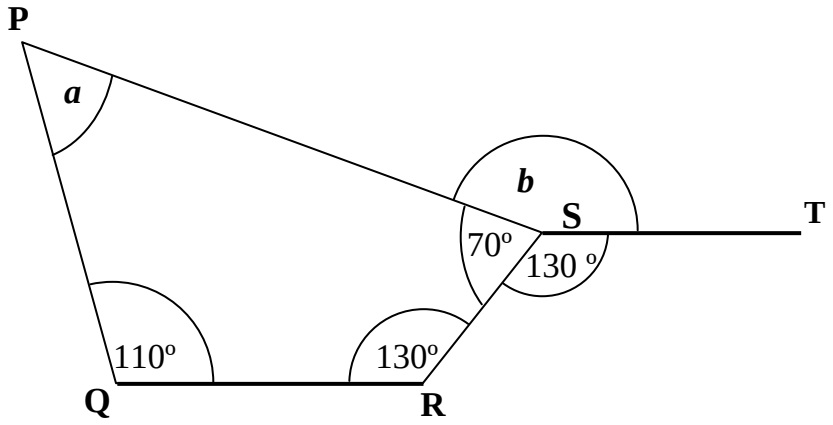
Ans: € _____

(iii) This week he aims to earn €150. How many hours must he work?

Ans: _____ hours

(7 marks)

8. Give **reasons** for your answer in every part of this question.



(Diagram not drawn to scale)

a) Work out the size of the angle marked ***a***.

Ans: ***a*** = _____ º reason: _____

b) Work out the size of the angle marked ***b***.

Ans: ***b*** = _____ º reason: _____

c) What can you say about straight lines QR and ST? Give a reason for your answer.

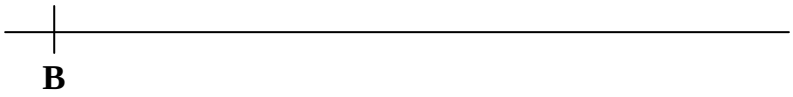
_____

_____

_____

(5 marks)

9. a) On the given line below, construct triangle ABC such that AB = 8 cm, BC = 8 cm and angle B = 100º. Label your diagram.



b) On your diagram mark point O, the **midpoint** of AB.

c) With **centre** O and **radius** 4 cm, draw a **circle** to cut AC at X.

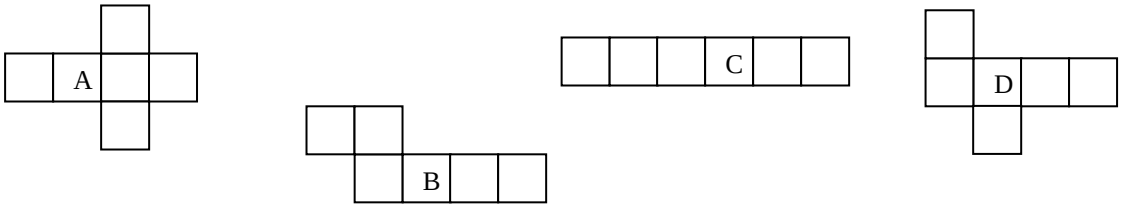
Label point X on your diagram.

d) Measure and write down the **length** of BX correct to the nearest mm.

Ans: BX = _____

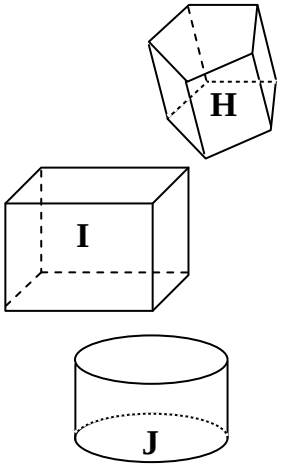
(8 marks)

10. a) Which of these **are** nets of a closed cube?



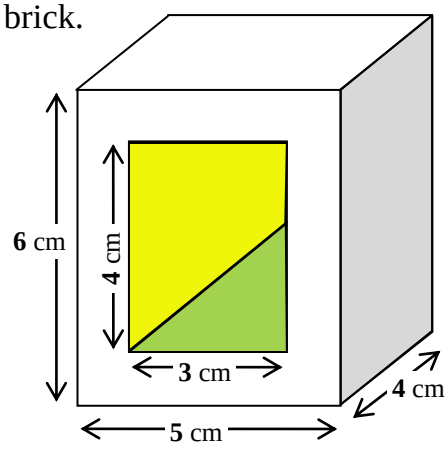
Ans: _____

b) Fill in the 4 spaces in the table:



Shape	No. of faces	No. of vertices	No. of edges
H			
I			
J			

c) (i) Work out the **volume** of the **hole** in this plastic brick.



Ans: (i)_____ cm^3

(ii) Find the **volume** of **plastic** in the brick.

Ans: (ii) _____ cm^3

(7 marks)