DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2012

**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) What is one fifth of €0.40?

   Ans:_____

   b) Fill in: $20 - 4 = 4 \times (2 + \boxed{})$

   c) By looking at the following calculations, state which of them **must** be **wrong**.
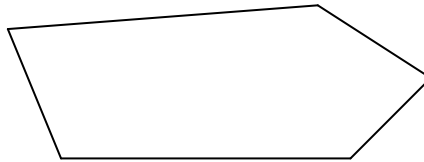
   (i) $53 \times 44 = 2332$ (ii) $36 \times 23 = 882$ (iii) $85 \times 25 = 2125$
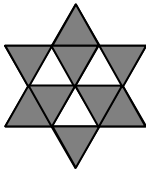
   Ans:_____

   d) Mark the **acute** angles.

   (4 marks)

2. a) Express as a **fraction** and as a **decimal**.

   $$\frac{\text{Number of shaded triangles}}{\text{Whole number of small triangles}} = \frac{\boxed{}}{\boxed{}} = \underline{\quad . \quad}$$

   b) **Circle** the only set of numbers which has three **equal** values.

   (i) $\dfrac{2}{5}$ 40%   0.4   (ii) $\dfrac{1}{4}$ 25%   0.14

   (iii) $\dfrac{3}{4}$ 34%   0.74   (iv) $\dfrac{7}{10}$ 7%   0.7

   (3 marks)

3. a) Maria has €15 to spend on peanuts.
      How many bags of peanuts can she buy?

   | peanuts |
   | €1.35 |

   Ans:_____ bags

b) Rhys has €50.

He wants to buy a bird feeder and 10 bags of bird seed.

How much **more** money does he need?

bird seeds
€4.85

bird feeder
€8.95

Ans: €_____ more

(3 marks)

4. Complete the patterns.

a) 8,   5,   2,   −1,   ____.

b) €____,   €2.05,   €2.45,   €2.85,   €3.25.

(2 marks)

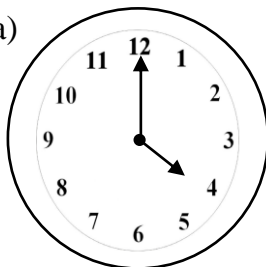5. Fill in the number cards to make correct calculations.

a) [− 1] + [   ] = [− 3]

b) [4] − [− 4] = [   ]

c) [$(-2)^3$] = [   ]

(3 marks)

6. a)
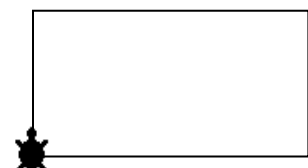
What is the **obtuse** angle between the hands of the clock at exactly 4 o'clock?

Ans:_____ °

b) Complete the logo commands to draw a rectangle with a **perimeter** of 200 turtle steps.

PD REPEAT 2 [FD 40 RT 90 FD ____ RT 90]

(3 marks)

7.   A teacher asked a group of girls in a school about their reading habits.
     He gathered the following information:

          9 girls read 1 book or none per week.
          5 girls read exactly 2 books per week.
          6 girls read 3 books or more per week.

     a)   What **fraction** of the girls read at least 3 books per week?

                                                    Ans:_____

     b)   Express the above answer as a **percentage.**

                                                    Ans:_____ %

                                                         (2 marks)

8.   a)   A packet of cereal weighs 375 g. What is the weight of **ten** such packets, in
          kilograms?

                                                    Ans:_____ kg

     b)   Anna buys a 2 litre bottle of water. She pours 0.5 litres in a beaker and
          drinks 200 ml from the bottle. How much water is **left** in the bottle?

                                                    Ans:_____

     c)   During a School Sports Day, at a certain point Ben is 750 m away from the
          starting point while Mario is 1 km away. If Ben is **half** way in the race,
          what distance does Mario still have to run to finish the race?

                                                    Ans:_____

                                                         (5 marks)

	LEVELS 7 - 8
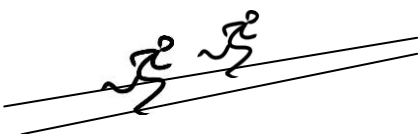
FORM 1   **MATHEMATICS**   **TIME: 1h 30min**
Main Paper

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

DO NOT WRITE ABOVE THIS LINE.

Name: _____   Class: _____

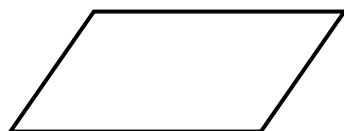**CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORKING MUST BE SHOWN.
ANSWER ALL QUESTIONS.**

1. a) Write thirty five thousand and seventy six in figures.

   _____

   b) Fill in and then write as a power of ten:

   $5^3 \times 2^3 = $ [_____] $= 10^{\square}$

   (3 marks)

2.

   The shape is a quadrilateral. Tick ($\checkmark$) the **correct** statements.

   a) It is a parallelogram. $\checkmark$
   b) It has line symmetry.
   c) It is an irregular polygon.
   d) Its opposite angles are equal.
   e) Its diagonals are equal.

   (2 marks)

3. This is a picture of Reno's new car.

a) Measure the length of the car in the picture, correct to the nearest mm.

Ans: _____ mm

The real car length is 4.50 m.

b) Work out the **scale** in its **simplest** form.

Length of car in picture : Length of real car

Ans: _____ : _____

(3 marks)

4. Fill in the spaces to complete the following number machines. Then write the **rule**.

a)

Input (*x*)	Output (*y*)
1	3
2	6
3	9
4	
5	15

b)

Input (*p*)	Output (*q*)
1	5
2	8
3	11
4	
5	17

Rule: $y =$ _____

Rule: $q =$ _____

(4 marks)

5. The following table shows the ages of 12 children at the playing field at noon last Sunday.

5	10	8	11	8	5
12	8	9	10	11	9

a) Find the **median** age of the data.

_____

b) Work out the **mean** age correct to 1 decimal place.

_____

c) Complete the **frequency table** for the above data and then complete and label the **pie chart**.
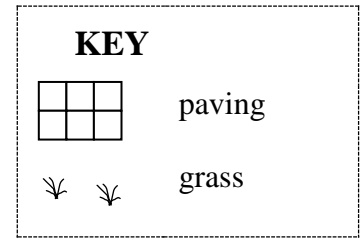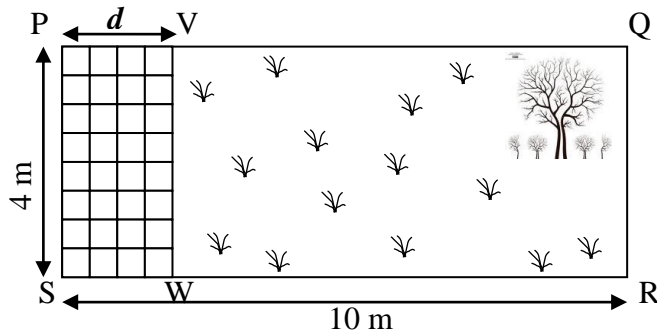
Age	Frequency
5	2
6	0
7	0
8	3
9	
10	
11	
12	1
Total	12
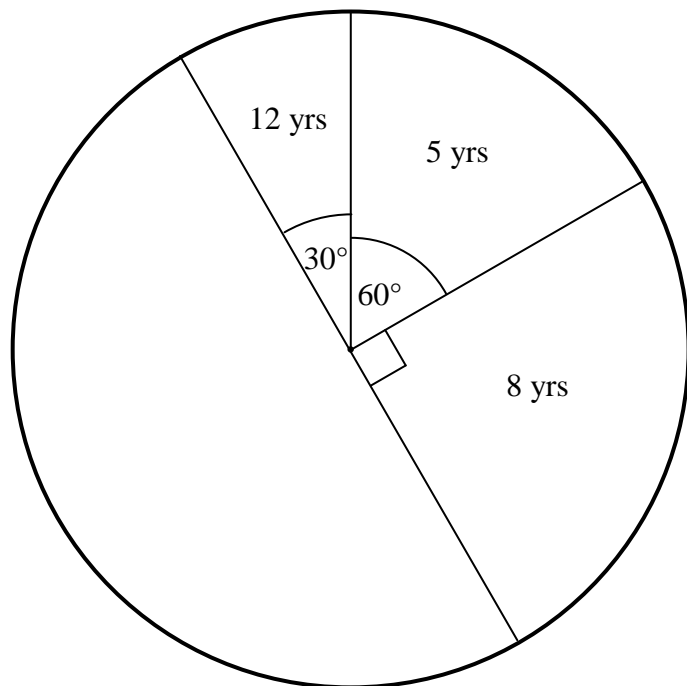
d) What is the **mode**?   _____

(9 marks)

6. a) Raymond's rectangular garden has **paving** on one side. The rest is grass.

(i) What is the **perimeter** of the whole garden PQRS?

Ans: _____ m

(ii) What is the value of *d* if the tiles are squares of side 50 cm? Give answer in metres.
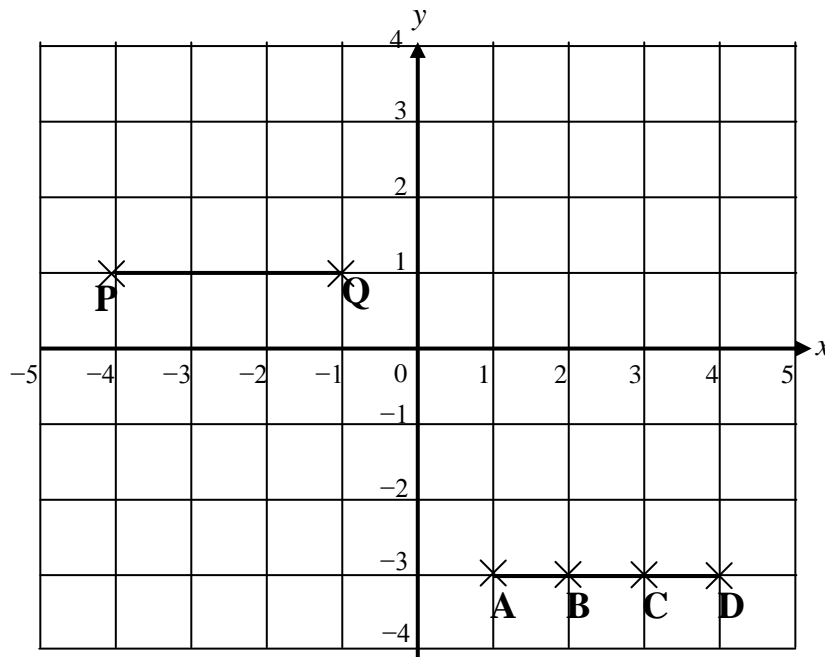
Ans: _____ m

(iii) Calculate the **area** of VQRW.

Ans: _____ m^2

b) Raymond digs a pond 2 m long, 1.5 m wide and 1 m deep. What is the volume of the water if the pond is filled to the top? (The pond is in the form of a cuboid.)

Ans: _____ m^3

(8 marks)

7.

a)   (i)   Write the coordinates of P (,   ) and Q (,   ).

(ii)   Plot point R $(-2, 3)$ and join PQR to form a triangle.

(iii) **Reflect** triangle PQR in the **x axis**. Label it P′Q′R′.

(iv) **Translate** triangle PQR **5 right** and **2 down**. Label it P″Q″R″.

b)   **Underline** the correct equation below:

Points A, B, C and D on the grid shown lie on the line with equation:
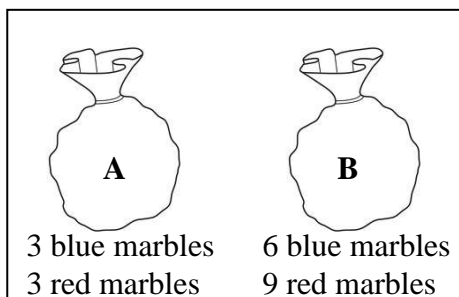
$y = -3$ $y = 3x$ $x = -3$ $y = x - 3$

(8 marks)

8.

A

B

3 blue marbles   6 blue marbles
3 red marbles   9 red marbles

a)   Darren chooses a marble from bag A and another marble from bag B without looking.

(i)   The probability of picking a **blue** marble from **bag A** is

_____

(ii)   The probability of picking a **blue** marble from **bag B** is

_____

(iii) Is Darren **more likely** to pick a blue marble from bag A or bag B?
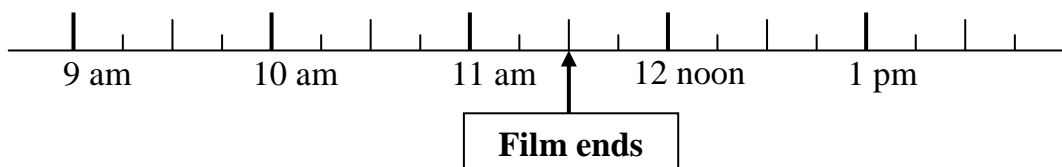
Ans: Bag_____

b) (i) Evaluate: $13^2 =$

(ii) Write 3 **square numbers** which round to **200 correct to the nearest 100**.

$\begin{array}{|c|}\hline\\\hline\end{array} \approx 200$ $\begin{array}{|c|}\hline\\\hline\end{array} \approx 200$ $\begin{array}{|c|}\hline\\\hline\end{array} \approx 200$

Ans:_____, _____, _____

(6 marks)

9. Leo and his sister watched an action movie.

9 am   10 am   11 am   12 noon   1 pm

Film ends

a) The movie was 2 hours and 15 minutes long.

Mark on the time line, the time when the film **started**.

b) **After** the film, they played **football** in the backyard.

When they came in from playing football, it was 1.05 pm.

Write this time using 24-hour clock. _____

c) How long did they play football?

Ans: _____h_____min

(3 marks)

10. a) According to this fuel gauge, **about** how many litres of fuel are in the tank?

Ans:_____litres

Fuel Gauge

20

0   40
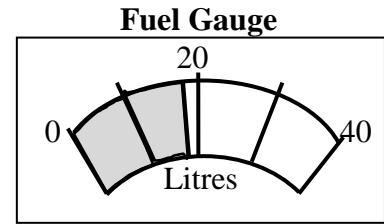
Litres

b)

Recipe

10 strawberries
½ litre orange juice
250 ml yogurt
1 banana

Makes **2** smoothies

(i) Express in its **simplest** form.

orange juice: yogurt

Ans: ____ : ____

Silvia uses the recipe to make smoothies. She uses **1 litre** of yogurt.

(ii) How many **strawberries** does she need?

Ans:_____strawberries

Aaron uses the same recipe. He wants to make 5 smoothies.

He has 1 litre of orange juice.

(iii) How many **more** millilitres of orange juice does he need?

Ans:_____ more millilitres of orange juice

(6 marks)

11. a) If $x = 4$ and $y = 10$ find the value of:

$$\frac{2(x+1)}{y} =$$

Ans: _____

b)   The value of each **t** in the diagram is 21°. Work out the value of **s**.
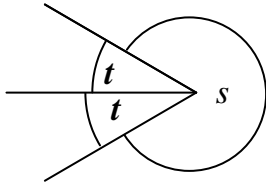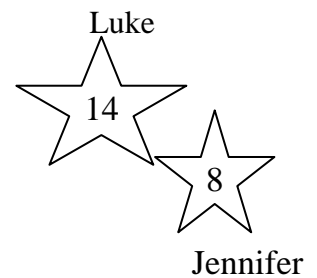

Ans: **s** = _____°

(4 marks)

12.   Luke had 14 points and **lost *x*** points during a game.

a)   Write this as an expression in **x**.

_____

Jennifer started with 8 points and **won *x*** points.

b)   Write this as an expression in *x*.

_____

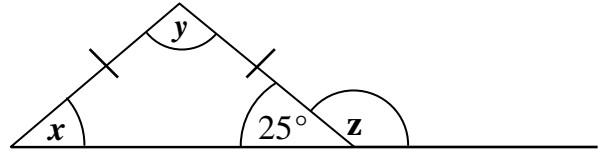They noticed that then they each had the **same** number of points.

c)   Form an equation in **x** and solve it.

Ans: **x** = _____

(5 marks)

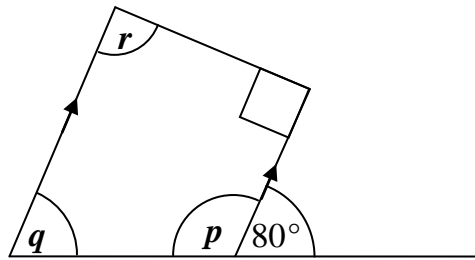13. a)   Find

   (i)   the value of the exterior angle **z**

Ans: **z** = _____ °

   (ii)   the value of $(x + y)$

Ans: $(x + y)$ = _____ °

   (iii)   What can you deduce from the above answers?

   _____

b)   Find the value of **p**, **q** and **r**, giving reasons.

reasons

Ans: **p** = _____ ° (_____)

Ans: **q** = _____ ° (_____)

Ans: **r** = _____ ° (_____)

Space for working if required.

(9 marks)

14. a) Use ruler and compasses **only** to make an accurately, labelled drawing of the triangle shown, starting from the given line below.
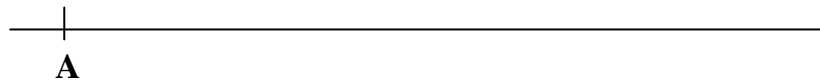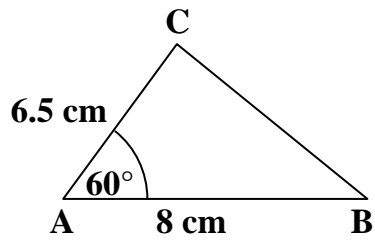
b) Measure   (i) angle B correct to the **nearest degree**

Angle B = _____

(ii) side BC correct to the **nearest mm**.

side BC = _____

(5 marks)