DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION

Department for Curriculum Management and eLearning

Educational Assessment Unit

Annual Examinations for Secondary Schools 2011

FORM 4   MATHEMATICS (Non Calculator Paper)   TIME: 30 minutes

Question	1	2	3	4	5	6	7	8	9	10	11	12	Total
Mark													

Name: _____   **Class:** _____

INSTRUCTIONS TO CANDIDATES

▪ **Answer ALL questions.**

▪ **This paper carries a total of 20 marks.**

▪ **Calculators and protractors are NOT ALLOWED.**

1. **13,267** people attended a concert.

   Give this number correct to:

   a) the nearest **hundred** = _____

   b) the nearest **ten** = _____

   c) the nearest **thousand** = _____

   <div align="right">(3 marks)</div>

2. **Complete** the **next two terms** of the sequence given below.

   1,   3,   6,   10,   _____,   _____

   <div align="right">(2 marks)</div>

3. Look at the following set of numbers.
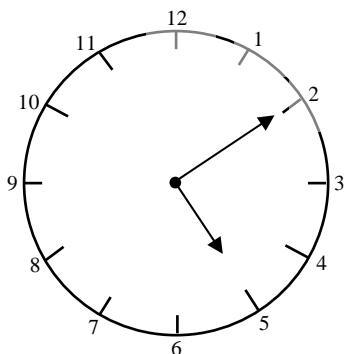
   25   48   27   32   13

   Use these numbers to choose:

   a) a **prime** =   _____

   b) a **square** =   _____

   c) a **cube** =   _____

   <div align="right">(3 marks)</div>

4. Write down the **time** shown by the clock.

   _____

   <div align="right">(1 mark)</div>

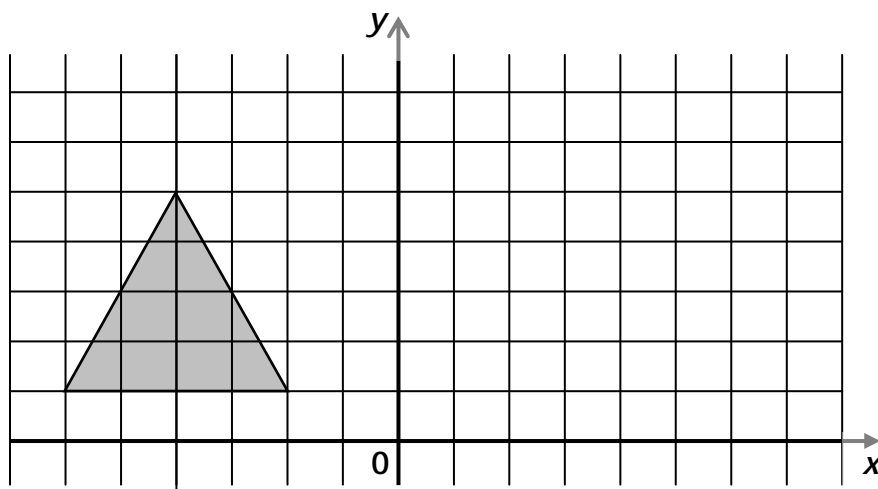5. Mark bought a shirt during a sale. It was sold at the re̶ price shown.

How much money did Mark **save**?

SALE

Was €10.50

Now €8.36

€ _____

(2 marks)

6.

Translate the triangle by moving it **9** squares to the **right** and **2** squares **up**.
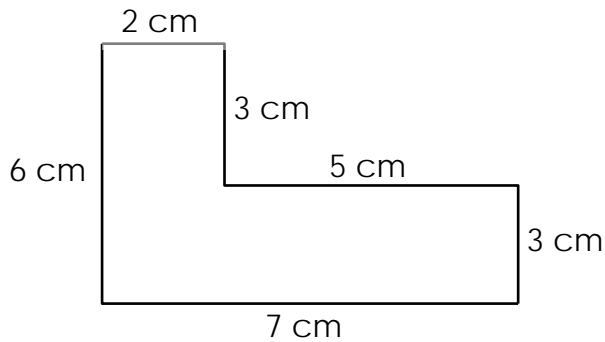
(1 mark)

7. **Complete** the number machine.

$$28 \rightarrow \div 4 \rightarrow + 5 \rightarrow \boxed{}$$

(1 mark)

8. **Solve** the equation to find the **value of** *m*.

$$3m - 4 = 11$$

_____

(2 marks)

9.   Work out the **perimeter** of this shape.
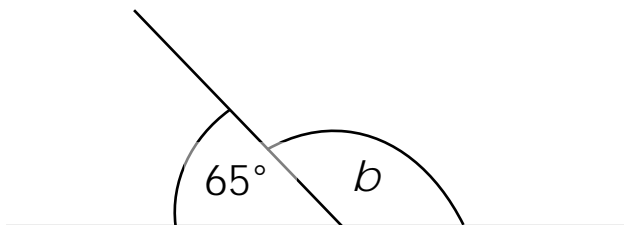
2 cm

3 cm

6 cm   5 cm

3 cm

7 cm

_____cm

(1 mark)

10.   There are **24** students in a class. $\frac{1}{3}$ of the students study Italian. Work out the **number of students** studying Italian.

_____

(2 marks)

11.   Work out the **size** of angle *b*.

65°   *b*

_____

(1 mark)

12.   Choose the correct word from the list below.

It is _____ to get a five (5) on tossing a

dice.

impossible   **unlikely**   **likely**   **certain**

(1 mark)

END OF PAPER

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FORM 4   **MATHEMATICS (Main Paper)**   **TIME: 1h 30min**

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

DO NOT WRITE ABOVE THIS LINE

Name _____   **Class** _____

- **Answer all questions.**
- **This paper carries 80 marks.**
- **Calculators and mathematical instruments are allowed but all necessary working must be shown.**

1. a) **Fill in** to change the units of the following:

1.2 cm = 1.2 × _____ = _____ mm
6.5 kg =   6.5 × _____ = _____ g
2½ days = 2.5 × _____ = _____ hours

   b) **Work out** the following:

25 × 6 = 25 × 2 × _____ = _____
7³ =   7 × 7 × _____ = _____
3.5 × 10² = 3.5 × 10 × 10 = _____

   (6 marks)

2.   **Match** each calculation to its correct answer. The first ~~is~~ done for you.

4×–2 + 15   10 – 3×2   20 ÷ (3 + 1)   (17 – 5) ÷ 4

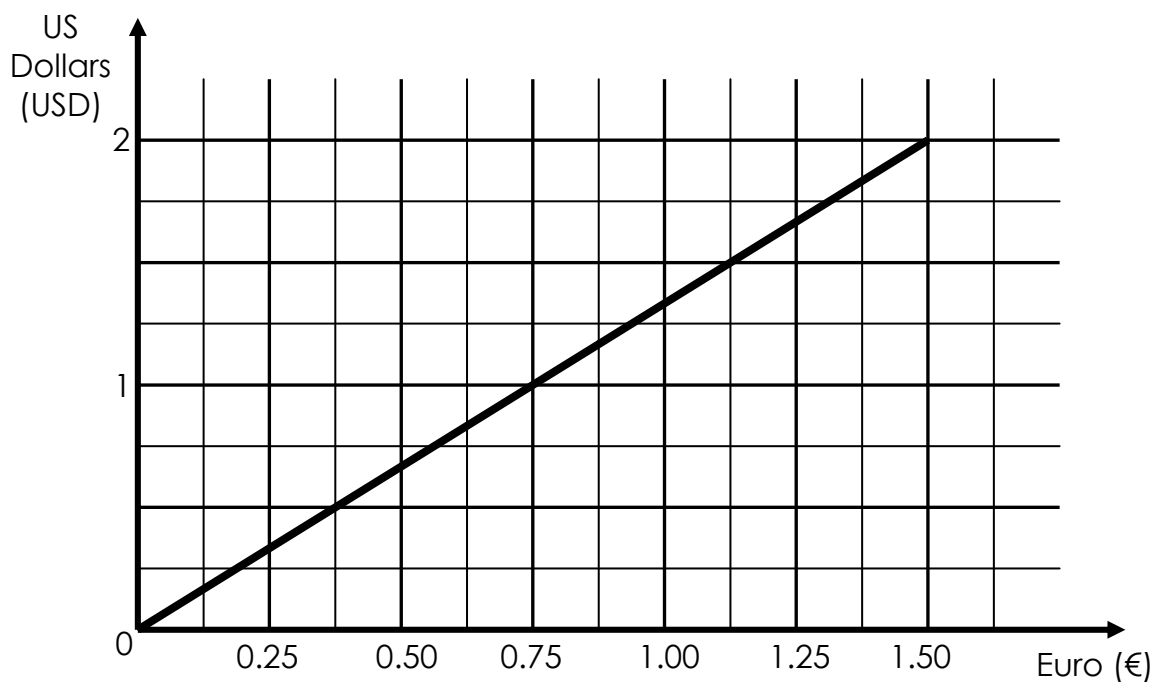| 5 | | 7 | | 3 | | 4 |

(3 marks)

3.   The graph changes US Dollars (USD) to Euro (€).

a) Use the graph to **fill in**:

   i) 1**USD**   =   € _____ .

   ii) €1.50   =   _____ **USD**.b) **Work out** the value of
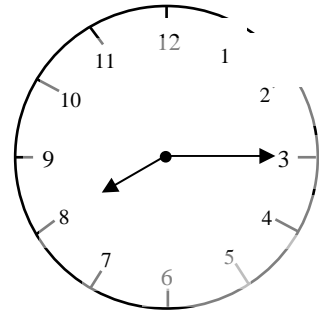
   50 US Dollars (USD) in Euro (€).

                          50 **USD**   =   € _____ .

(4 marks)

Name_____   Class_____

4. A film **starts** at **8.15 p.m.** It is 2 hours 30 minutes long.

a) **Work out** the time the film **finishes.**

_____ p.m.   _____:_____
(12-hour clock)   (24-hour clock)

b) The film **includes** a 15 minute **interval**.

Without the interval **the film is** _____hours _____ minutes long.

c) **Fill in** and **simplify** the ratio.

Interval in minutes : **Film** in minutes

_____ : _____

_____ : _____

(7 marks)

5. a) Make **equivalent** fractions.

i) $\dfrac{5}{8} = \dfrac{}{24}$ ii) $\dfrac{3}{4} = \dfrac{}{24}$

b) Is the following statement **true** or **false**?

⅝ is **greater** than **¾**   _____

c) Find a **fraction** that lies **between** ⅝ and ¾.

_____

(5 marks)

6. This is John's **telephone bill** for May 2011.

JOHN VELLA
5, BLOCK B, MAIN STR.
VALLETTA

	NUMBER OF CALLS	COST IN EURO (€)
MONTHLY RENTAL		6.35
LOCAL CALLS	78	14.04
MOBILE CALLS	12	3.84
TOTAL COST		_____

a) Work out the **total cost** of John's bill.

€_____

b) What is the **cost** of **one local call**?

€_____

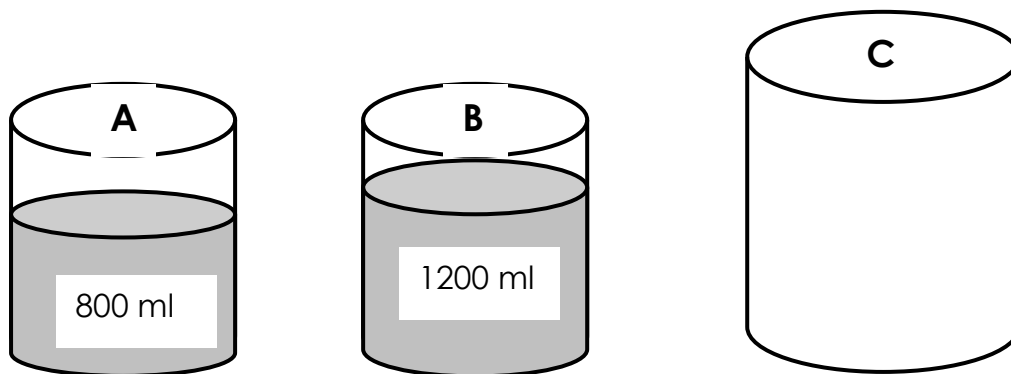c) **Work out** the **cost** of **one mobile call**.

€_____

d) A mobile call costs _____ euro cent _____ (more/less) than a local call.

(8 marks)

7.   The diagrams show three containers.
     Container **C** is empty but it holds **2.5 litres** when **full**.

a) Each container is a _____ (cone, cylinder, cube).

b) The **total** capacity of water in containers **A** and **B** is

_____ ml.

c) **How much** water must be poured from container **B** into **A** so that they have the same amount of water?

_____ml

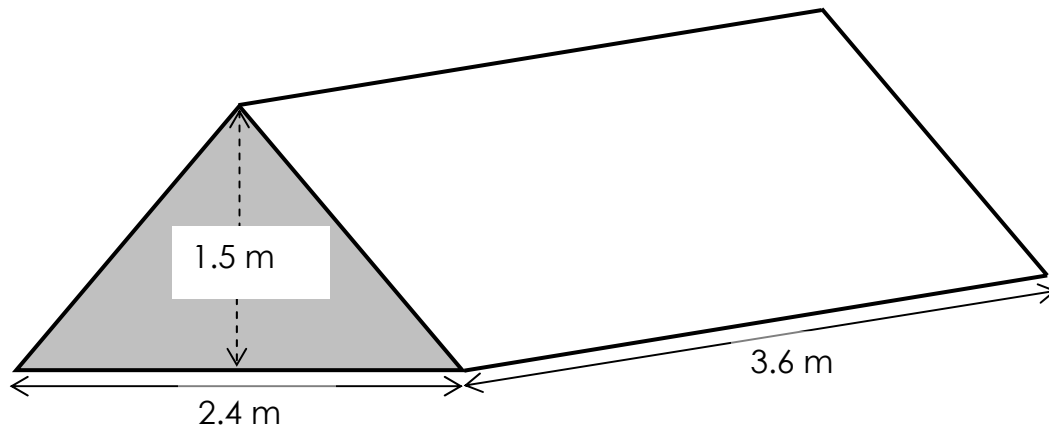d) All the water in the two containers **A** and **B** is poured into container **C**.

i)   Container **C** will have _____ **litres** of water.

ii)   Container **C** is **not full**. How many more litres of water does it need so that it is full?

_____litres

(8 marks)

8. Alan has a **tent**. Its entrance is in the shape of a **triangle**

1.5 m

3.6 m

2.4 m

a) Using $A = ½bh$, work out the **area** of the **triangle**.

_____ m²

b) Work out the **volume** of the tent.
   (Use **Volume = area × length)**

_____ m³

c) The **volume** of the tent correct to **1 decimal place** is

_____ m³.

(5 marks)

9. Jessica uses **LOGO** commands to draw a **rectangle**. The sides of the rectangle are 50 turtle steps (ts) and 120 turtle steps.
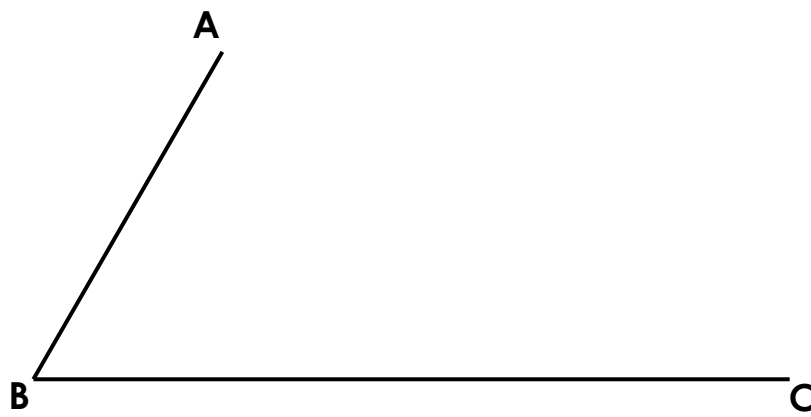
50 ts

Complete the commands:

PD REPEAT _____ [FD 50 RT _____ FD _____ RT _____]

(4 marks)

10. **AB** and **BC** are two lines.

A

B   C

a) Use a ruler to **draw** line **AC** to form triangle **ABC**.

b) Use a **ruler** to measure the **length** of each side of the triangle.

   AB = _____ cm   **BC** = _____ cm   **AC** = _____ cm

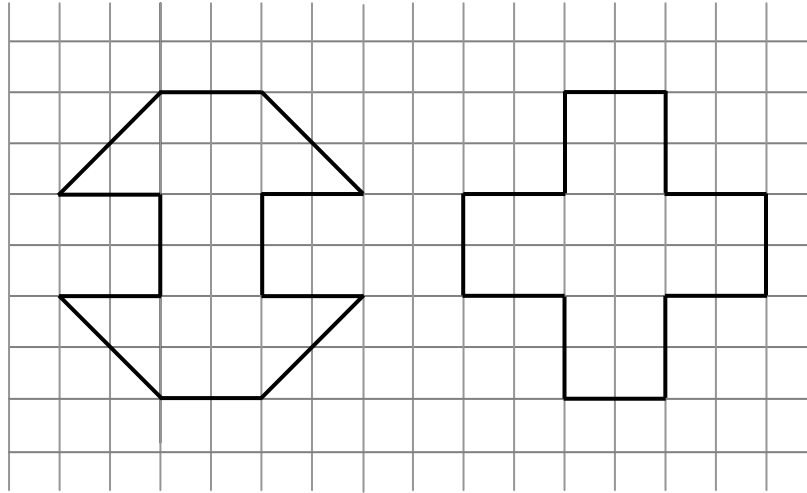c) Use a **protractor** to measure the **angles** of the triangle.

   ∠A = _____°   ∠B = _____°   ∠C = _____°
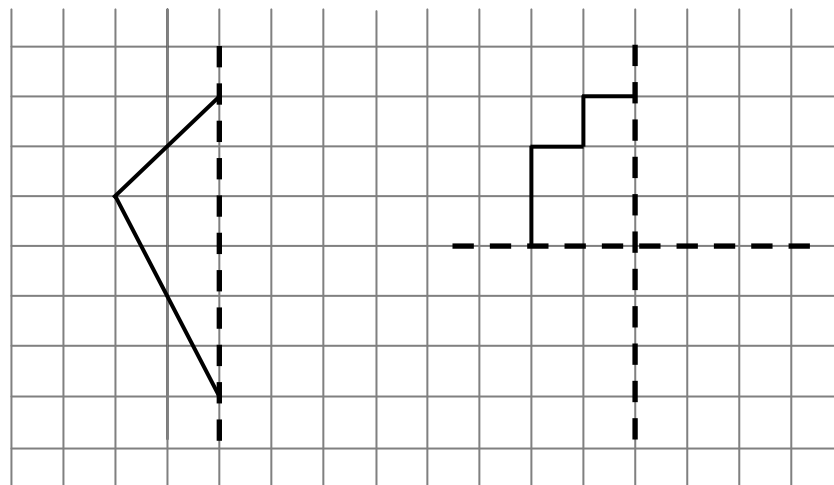
d) **Underline** the correct answer.

   Triangle **ABC** is (isosceles, equilateral, right-angled).

(8 marks)

11. a) **Draw** the **lines of symmetry** of the following shapes.

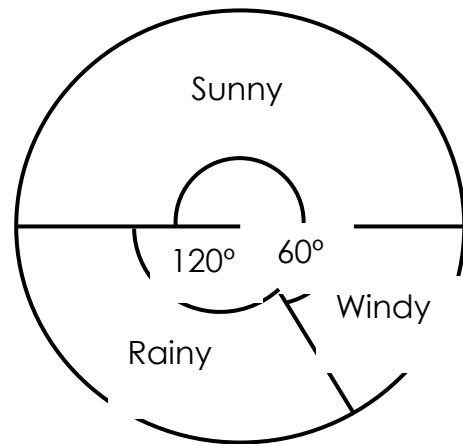b) **Complete** the figures below to make them symmetrical about the dotted lines.

(8 marks)

12. The pie chart shows what the **weather** was like during Ap...

Fill in:

a) April has _____ days.

b) The angle representing the **sunny** days is _____ °.

Sunny

120° 60°

Rainy

Windy

c) **Work out** the number of **sunny** days.

_____ days
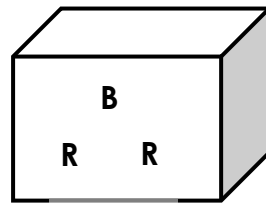
d) Work out the number of **windy** days.

_____ days

e) **Underline** the correct words.
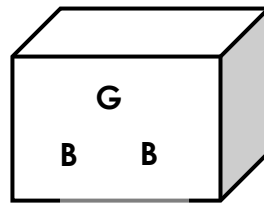
During April the number of (sunny, rainy, windy) days

was **double** the number of (sunny, rainy, windy) days.

(8 marks)

13. Martin has **two** boxes each containing 3 marbles.

Box 1	Box 2
B R R	G B B

Box 1 has 2 **red** (**R**) marbles and one **blue** (**B**) marble.

Box 2 has 2 **blue** (**B**) marbles and one **green** (**G**) marble.

Martin picks a marble from each box at random.

a) **Complete** the possibility space.

Box 2

		Blue (**B**)	Blue (**B**)	Green (**G**)
	Blue (**B**)	(**B, B**)	(**B, B**)	(___ , ___)
Box 1	Red (**R**)	(**R, B**)	(**R, B**)	(___ , ___)
	Red (**R**)	(**R, B**)	(___ , ___)	(___ , ___)

b) Use the possibility space to find:

    i)   the **probability** that the marbles are **both blue**

                                                      _____

    ii)   the **probability** that **one** of the marbles is **green.**

                                                      _____

(6 marks)

END OF PAPER