

**KULLEĠĠ SAN BENEDITTU**  
**Boys Secondary School, Kirkop**

**C**

**HALF-YEARLY EXAMINATIONS – FEBRUARY 2012**

**FORM 3**

**MATHEMATICS** Scheme C

**TIME: 30 mins**

**Non Calculator Paper**

<b>Question</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>	<b>6</b>	<b>7</b>	<b>Total</b>
<b>Max. Mark</b>	2	2	2	5	6	2	6	25
<b>Mark</b>								

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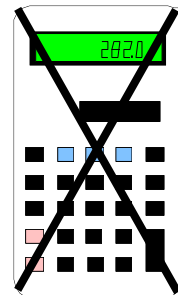
**NAME AND SURNAME:** \_\_\_\_\_

**CLASS:** \_\_\_\_\_

**INSTRUCTIONS TO CANDIDATES:**

**Read all the questions carefully before you start answering.**

- Answer all questions.
- This paper carries 25 marks.
- **Calculators, protractors** and other mathematical instruments are **NOT ALLOWED**.
- On your desk you should have nothing except for **pen, pencil, ruler** and the **examination paper**.
- You are not required to show your working. However, space for working is provided if you need it.



1. A cake was put in the oven at **3.25pm** for **1hour 15 minutes**.  
At **what time** was the cake ready?



Ans \_\_\_\_\_pm

(2 marks)

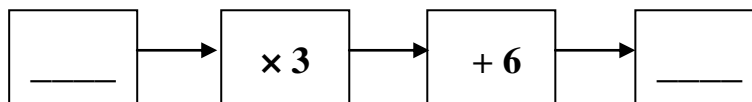
2. A bookshop is offering **50% discount** on all text books.  
Calculate the selling price of a book originally costing **€172**.

Ans \_\_\_\_\_

(2 marks)

3. Choose the **two** correct numbers from the list to complete this function machine.

**2,      4      ,      8      ,      15      ,      30      ,      45**



(2 marks)

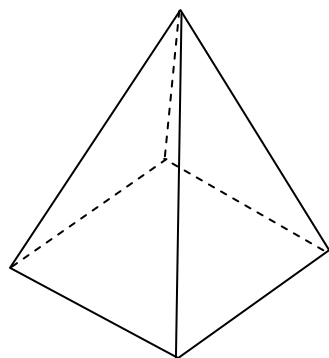
4. Use letters to **match** each answer to the correct calculation:

<b>A</b>	<b>18</b>
<b>B</b>	<b>− 10</b>
<b>C</b>	<b>4200</b>
<b>D</b>	<b>− 18</b>
<b>E</b>	<b>42</b>

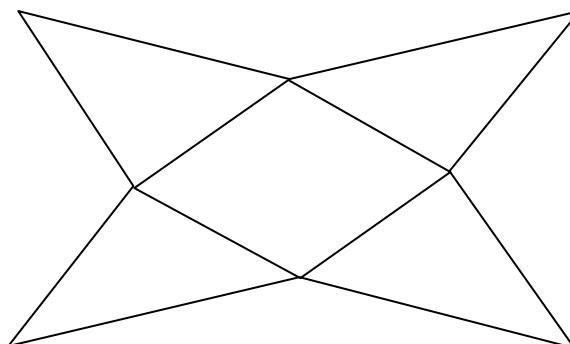
	<b><math>4.2 \times 1000</math></b>
	<b><math>6 + 2 \times 6</math></b>
	<b><math>6 - 8 \times 2</math></b>
	<b><math>(5 + 2) \times 6</math></b>
	<b><math>- 8 - 10</math></b>

(5 marks)

5. The following is a 3D shape and its net.



**Square-based pyramid**



**Net of a square-based pyramid**

- (a) Identify its number of faces, vertices and edges.

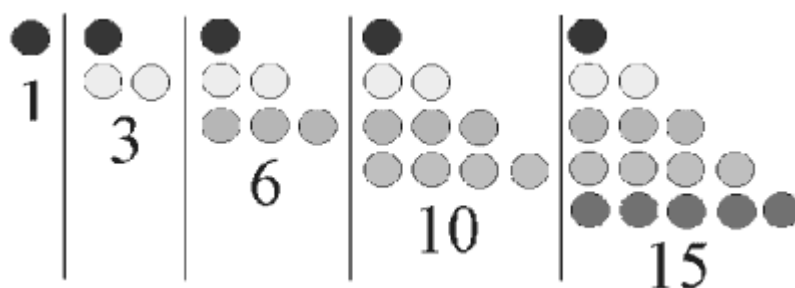
Faces \_\_\_\_ Vertices \_\_\_\_ Edges \_\_\_\_

- (b) State whether the following shapes are 2D or 3D shapes:

Cylinder \_\_\_\_\_ Sphere \_\_\_\_\_ Triangle \_\_\_\_\_

(6 marks)

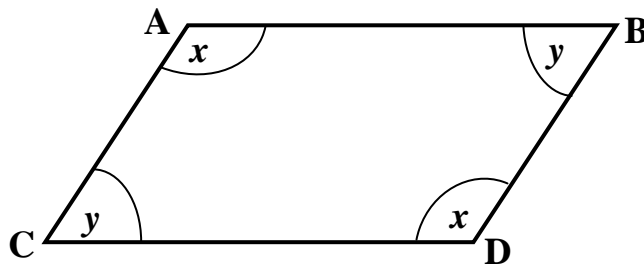
6. Examine carefully this pattern.



How many small circles will be needed to form the **next** pattern?

Ans \_\_\_\_\_

(2 marks)



Choose the *six* words from the following list to fill in the spaces **correctly**.

*kite*

*line BD*

*opposite*

*line AD*

*quadrilateral*

*prism*

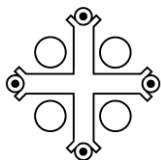
*rhombus*

*line CD*

- The above shape is a **parallelogram**. It is an example of a \_\_\_\_\_ since it has four straight sides.
- Other examples of shapes having four sides include \_\_\_\_\_ and \_\_\_\_\_.
- Line AB is equal and parallel to \_\_\_\_\_.
- Similarly, line AC is equal and parallel to \_\_\_\_\_.
- \_\_\_\_\_ angles are equal.

(6 marks)

**END OF PAPER**



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**HALF-YEARLY EXAMINATIONS – FEBRUARY 2012**

**FORM 3**

**MATHEMATICS** Scheme C

**TIME: 1hr 30mins**

**Main Paper**

Question	1	2	3	4	5	6	7	8	9	10	Main	NC	Global Mark
Max. Mark	4	5	5	5	7	8	10	10	10	11	75	25	100
Mark													

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**NAME AND SURNAME:** \_\_\_\_\_

**CLASS:** \_\_\_\_\_

**INSTRUCTIONS TO CANDIDATES:**

**Read all the questions carefully before you start answering.**

- Answer all questions.
- This paper carries 75 marks.
- Calculators and mathematical instruments are allowed but all necessary working must be shown.

1. **Complete** this table

Units	Units
80 mm	_____ cm
195 cm	_____ m
____ kg	2400 g
5.5 litres	_____ ml

(4 marks)

2. (a) Look carefully at this picture.  
Write down the ratio of **DOGS : CATS**.

\_\_\_\_\_ : \_\_\_\_\_



- (b) In an animal sanctuary the ratio of **DOGS : CATS** is **1 : 5**.  
There are 20 cats. How many **dogs** are there in this sanctuary?

Ans \_\_\_\_\_ dogs

- (c) **Simplify** the following ratios:

(i) **10 : 25**

\_\_\_\_\_ : \_\_\_\_\_

⋮

(ii) **14 : 49**

\_\_\_\_\_ : \_\_\_\_\_

(5 marks)

3. The school council is organising an outing to Gozo.  
Parents will pay €20, students will pay €12 and young children will pay €5 each.

- (a) Given the above information, Celine is constructing a formula, where  
**c** stands for the **total cost** of the outing,  
**p** stands for **parents**,  
**s** for **students** and **y** for **young children**

Tick (✓) the correct formula.

$c = 20p + 12s - 5y$  ☐

$c = 20s + 12p + 5y$  ☐

$c = 20p + 12s + 5y$  ☐

- (b) How much money should the teacher collect if 8 parents, 15 students and 5 young children will attend this outing?

Ans € \_\_\_\_\_

(5 marks)

4. The cheetah is the fastest land animal.



- (a) Calculate the **speed** of the cheetah in km/h if it travels a distance of **25 km** in **a quarter** of an hour ?

Ans \_\_\_\_\_ km/h

- (b) A cheetah is moving its cubs to a new hiding place 6 km away at an average speed of **10 km/h**.

**How long** will they take to arrive? Give your answer in **minutes**.

Ans \_\_\_\_\_ min

(5 marks)

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5. (a) **Simplify** these expressions

(i)  $3x + 5y - 2x + 12y$

Ans \_\_\_\_\_

(ii)  $5(x + 6) - 7$

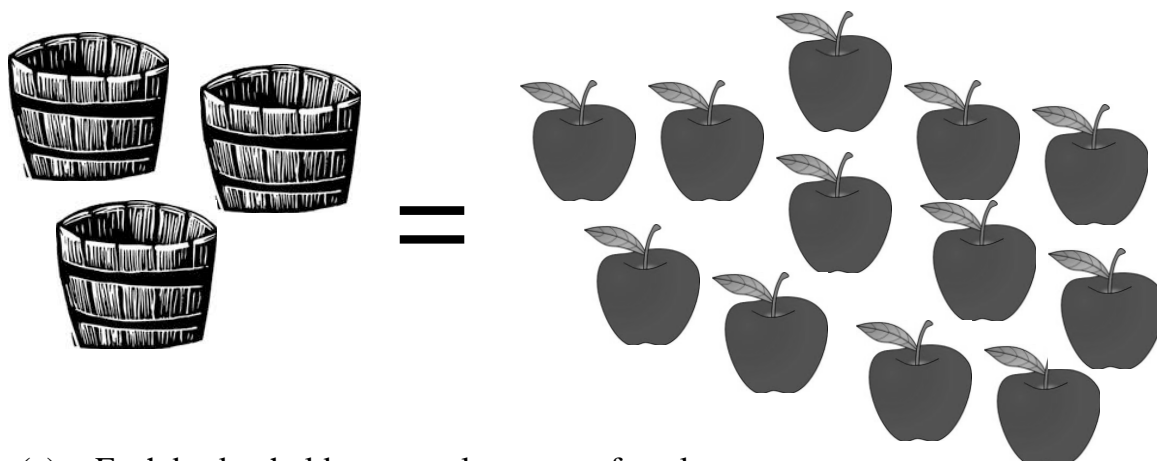
Ans \_\_\_\_\_

- (b) **Factorise** the expression  $3a + 12b$

Ans \_\_\_\_\_

(7 marks)

6.



- (a) Each basket holds an equal amount of apples.  
How many apples are there in each basket?

Ans \_\_\_\_\_ apples

- (b) **Solve** these equations.

(i)  $4p = 56$

(ii)  $q - 4 = 19$

(iii)  $3r + 3 = 39$

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






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

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

(8 marks)



7. The following is a 5-day weather forecast in Russia.

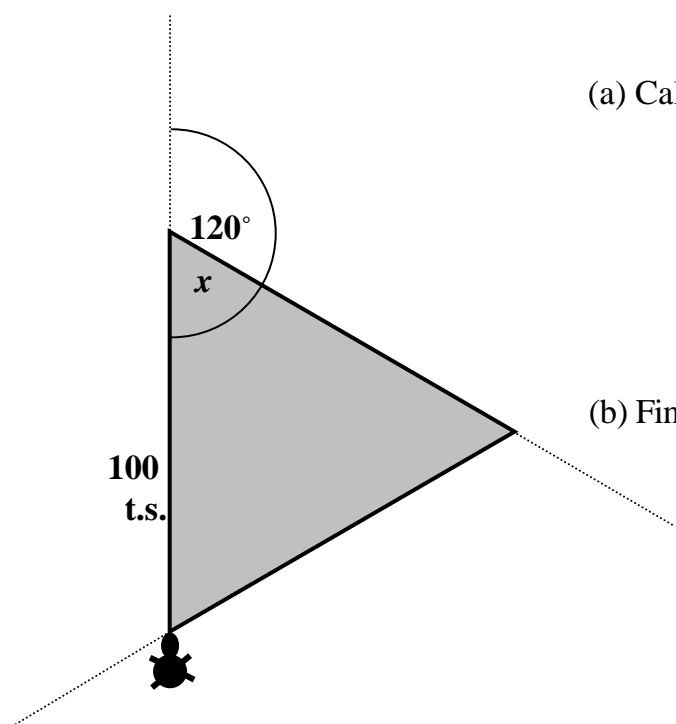
	Monday	Tuesday	Wednesday	Thursday	Friday
					
Temperature	0°C	- 8 °C	-12°C	- 5°C	3°C

- (a) Which is the **coldest** day? \_\_\_\_\_
- (b) Fill in the missing numbers to put the temperatures in order, **lowest** first  
 \_\_\_\_\_, \_\_\_\_\_, - 5°C , \_\_\_\_\_, 3°C
- (c) Circle the **highest** temperature:
- (i) - 8 °C or -12°C                      (ii) - 5°C or 0°C
- (d) Choose the correct answer:
- (i) Between Wednesday and Thursday the temperature will rise by \_\_\_\_\_  
 ( 5°C, 7°C, 10°C).
- (ii) Friday is expected to be relatively \_\_\_\_\_(colder, warmer)  
 than Thursday.
- (e) On Saturday, the temperature is expected to **fall** by 4°C.  
 What will the temperature be on Saturday?

Ans: \_\_\_\_\_ °C

(10 marks)

8. Claire is using LOGO to draw an **equilateral** triangle



(a) Calculate the size of angle  $x$

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

(b) Find the perimeter of this triangle in turtle steps.

Ans            turtle steps

(c) Complete the following LOGO commands to draw the above shape.

**PD**  
**REPEAT**      [ **FD**               **120** ]

(d) Say whether the following statements are **true** or **false**

(i) An equilateral triangle is a regular polygon                                 

(ii) A regular hexagon has 8 equal sides                                 

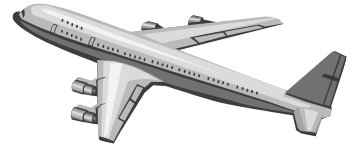
(iii) A square is an irregular polygon                                 

(10 marks)

9. Francesca is at Manchester airport waiting to take flight KM146 to return to Malta.

The following table shows the flight time from Manchester airport to Malta.

Flight Number	Departure	Arrival
KM 146	15.30	18.45



- (a) How long is the flight?

Ans: \_\_\_\_ hours \_\_\_\_ minutes

- (b) This flight is expected to arrive **30 minutes late**.  
At what time will Francesca arrive at Malta?

Ans: \_\_\_\_\_

- (c) The airline allows **20kg free** baggage weight.

- (i) Francesca's baggage **weighs 24.5kg**.  
Calculate in **grams** the amount of extra baggage weight.



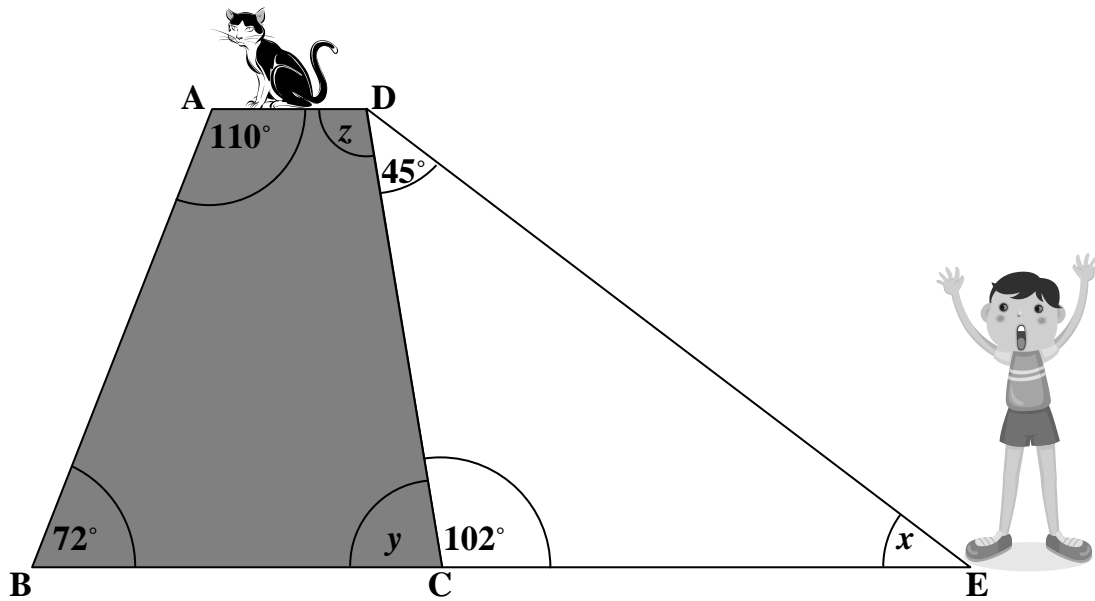
Ans: \_\_\_\_\_ g

- (ii) How much money does Francesca pay if the airline charges **€7.50 per 500g** of extra baggage weight?

Ans: € \_\_\_\_\_

(10 marks)

10.



Jacob finds his lost cat on the top of a wall.

(a) **Underline** the correct answer

(i) Triangle **CDE** is ( an equilateral, a scalene, a right-angled ) triangle

(ii) Shape **ABCD** is a ( rectangle, parallelogram, trapezium )

(b) Work out the size of angles  $x$ ,  $y$  and  $z$ .

	Working	Answer
Angle $x$		_____°
Angle $y$		_____°
Angle $z$		_____°

(d) Distance **BE** is equal to 4.5 m and distance **BC** is equal to 2.8 m.  
Calculate the distance **CE**.

**CE** = \_\_\_\_m

(11 marks)

**END OF PAPER**