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

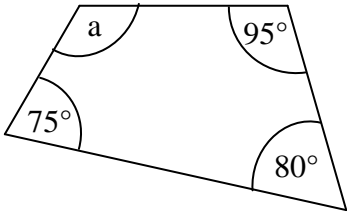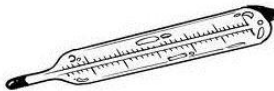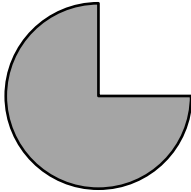| **FORM 5**	**MATHEMATICS SCHEME C**	**TIME: 20 minutes**
	Non Calculator Paper	

Name: _____   **Class: _____**

Mark

Instructions to Candidates

- **Answer ALL questions.**

- **This paper carries a total of 20 marks. Each question carries 1 mark.**

- **Calculators and protractors are not allowed.**

No.	Question	Space for
1	**Work out**: $5(16 + 4)$ _____	
2	**Fill in**: $\dfrac{18}{30} = \dfrac{\ }{5}$ _____	
3	**Complete** the following number pattern: 1, 3, 6, 10, _____, _____	
4	Work out the **area** of a rectangular playing field measuring 6.5 m by 10 m. Area = _____m²	
5	**Underline** the **probability** of getting the number **3** when throwing a dice. A) Certain B) Impossible C) Likely D) Unlikely	
6	**Underline** the **correct** answer for: $-6 \times 4 + 10 =$ A) −14 B) 34 C) 8 D) −34	
7	**Find** angle **a**. a 95° 75° 80° a = _____°	
8	The following are temperatures in degree Celsius (°C). 20, 22, 23, 21, 18, 19, 17 Work out the **mean** temperature. Mean: °C	

No.	Question	Space for
9	Underline the **volume** of this cuboid: 6 cm 4 cm 10 cm A) 460 cm³ B) 240 cm³ C) 120 cm³ D) 20 cm³	
10	The area of this rectangle is 21 cm². Work out the **perimeter** of the rectangle. 7 cm Perimeter = _____cm	
11	**Reflect** the triangle in the **y-axis**. y x	
12	The bearing of Q from P is 070°. Work out the bearing of **P from Q**. N N Q N 70° P Bearing of P from Q = _____°	

No.	Question	Space for
13	Use C = π*d* to **estimate** the **circumference** of a circle with diameter 5 cm. Circumference = _____ cm	
14	Two coins are tossed. Use the possibility space to work out the **probability** of getting **tails** on **both** coins. |	Heads	Tails | |-------|-------|-------| | Heads | **H, H** | **H, T** | | Tails | **T, H** | **T, T** | _____	
15	Each **exterior** angle of a regular polygon is 36°. The polygon is a: A) Pentagon B) Hexagon C) Decagon _____	
16	The area of the whole circle is 40 cm². Work out the **area of the shaded sector** of the circle. Area = _____cm²	
17	**Work out**: $$\frac{2}{3} - \frac{1}{2}$$ _____	
18	A radio costs €40. During a sale it is **reduced** by 10%. Work out its selling price **after the sale**. Selling Price = €_____	
19	Given that *m* = 8 and *n* = 5, find the value of $4m - n^2$ _____	
20	Brenda buys coloured pens each costing 55 euro cent. How many **pens** can she buy with a €5 note? _____ pens	

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| FORM 5 | MATHEMATICS SCHEME C | TIME: 1h 40m |
| | **Main Paper** | |

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

Name: _____ **Class:** _____

Instructions to Candidates

- **Answer ALL questions.**
- **This paper carries a total of 80 marks.**
- **Calculators are allowed. Show all necessary working.**

1. Using your **calculator**, work out:

   a) $5^2 + 2^3$ = _____   b) $(65 + 14) \times 18$ = _____
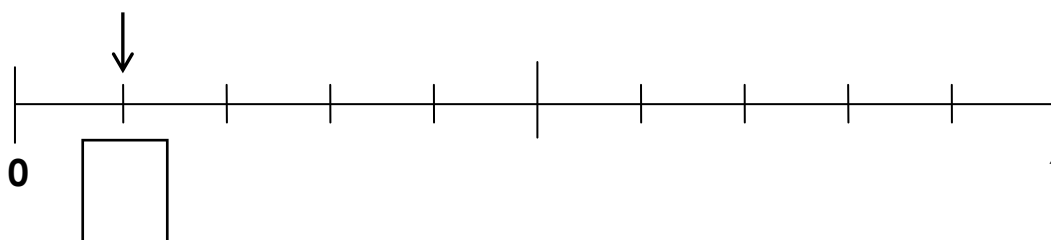
   c) $\sqrt{961}$ = _____   d) $75 - 136 \div 8$ = _____

   (4 marks)

2. a) Write the fraction marked with the arrow.

   b) On the number line **mark** the correct position of the fractions $\dfrac{7}{10}$ and $\dfrac{2}{5}$.

0   **1**

   (3 marks)

3. The number $2\dfrac{5}{8}$ is a **mixed number**.

    a) Change this number into an **improper fraction**.

    $$2\dfrac{5}{8} = \underline{\quad\quad}$$

    b) **Work out:**

    $$\dfrac{21}{10} \times \dfrac{2}{3} = \underline{\quad\quad}$$

    c) Use your answer in question b) and change it to a **mixed number**.
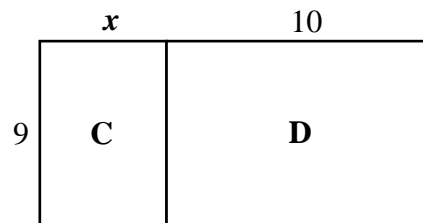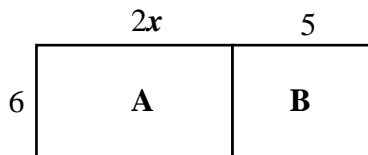
    $$\dfrac{\square}{\square} = \square\,\dfrac{\square}{\square}$$

    (6 marks)

4. a) **Factorise** the following expressions:

    i) $3m + 12 = \underline{\quad}(\underline{\quad\quad} + \underline{\quad\quad})$ ii) $p^2 - 5p = \underline{\quad}(\underline{\quad\quad} - \underline{\quad\quad})$

    b) The diagrams below show two sets of composite rectangles. The given lengths are in cm.

	2*x*	5
6	A	B

	x	10
9	C	D

    i)   Fill in the table below by working out the **area** of each rectangle.

Rectangle	A	B	C	D
Area (cm²)	12*x*			

    ii)   Use the answers in the table to find the **total area** of the four rectangles. **Simplify** your answer.

    Answer: _____ cm²

    (7 marks)

Name: _____   Class: _____

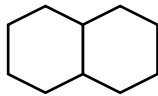5. A restaurant owner uses the following hexagonal tables to seat people.
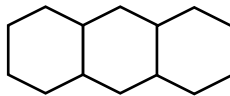
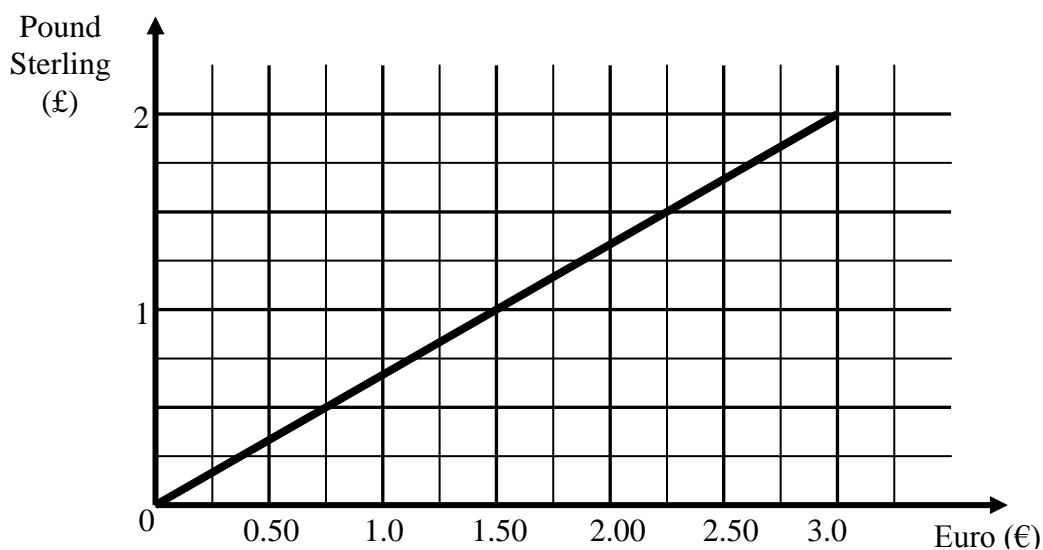Table 1   Table 2   Table 3

a) Fill in the table below.

Table	1	2	3	4	5
People	6	10			

b) Using 10 **tables**, _____ people can be seated.

c) To seat 30 **people**, _____ tables would be needed.

(7 marks)

6. The diagram below shows a conversion graph. It changes Pound Sterling (£) to Euro (€).

Pound
Sterling
(£)

2

1

0   0.50   1.0   1.50   2.00   2.50   3.0   Euro (€)

a) Use the graph to **complete** the following:

i)   £1 is equivalent to €_____

ii)   €0.75 is equivalent to £_____

b) Alex changes £300 to Euro (€). **Work out** his amount in Euro (€).

€_____

(4 marks)

7. a) **Solve** the following equations:

   i) $4x = 22$

   <div style="text-align: right">$x =$ _____</div>

   ii) $x + 5 = 6$

   <div style="text-align: right">$x =$ _____</div>

   iii) $\dfrac{x}{2} = 10$

   <div style="text-align: right">$x =$ _____</div>

   iv) $3x - 7 = 20$

   <div style="text-align: right">$x =$ _____</div>

   b) The cost of 2 soft drinks and a toast is €2.45. Given that the toast costs 75 cent, work out the **cost** of a **soft drink**.

Soft drink costs _____cent

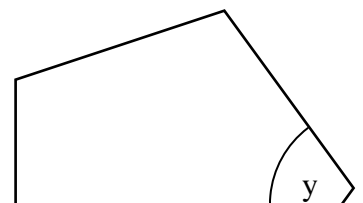(8   marks)

_____

Name: _____   Class: _____   **C**

8. The figure shows a **regular pentagon**.

   a) Work out the **sum of the interior angles** of the pentagon.

b) Find the size of **angle** *y*.

$y = $ _____ °

c) The **sum** of the **exterior angles** of the pentagon = _____°.

d) Work out the size of **one exterior angle**.

_____°

e) Using LOGO a regular pentagon can be drawn with the REPEAT command. **Fill in** the missing commands below.

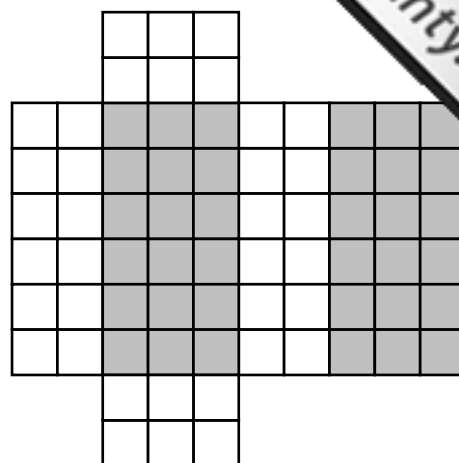PD

REPEAT _____ [FD 100 RT _____]

(9 marks)

9. Paul draws the net of the **cuboid** on 1 cm squared paper. The **shaded** faces re[...] **base** and the **top** of the cuboid.

a) **Use the diagram** to find the length, breadth and

   height of the cuboid.

   Length   = _____ cm

   Breadth = _____ cm

   Height   = _____ cm

(Note: Diagram is **not** to scale)

b) Work out the **volume** of the cuboid.
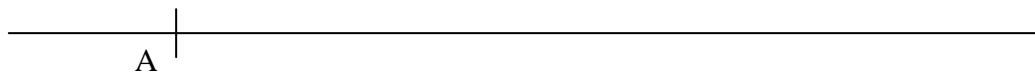
_____cm³

c) Work out the **total surface area** of the cuboid.

_____ cm²

(9 marks)

10. a) **Using ruler and compasses only**, construct triangle ABC in which AB = 10 cm, AC = 8 cm and BC = 6 cm.
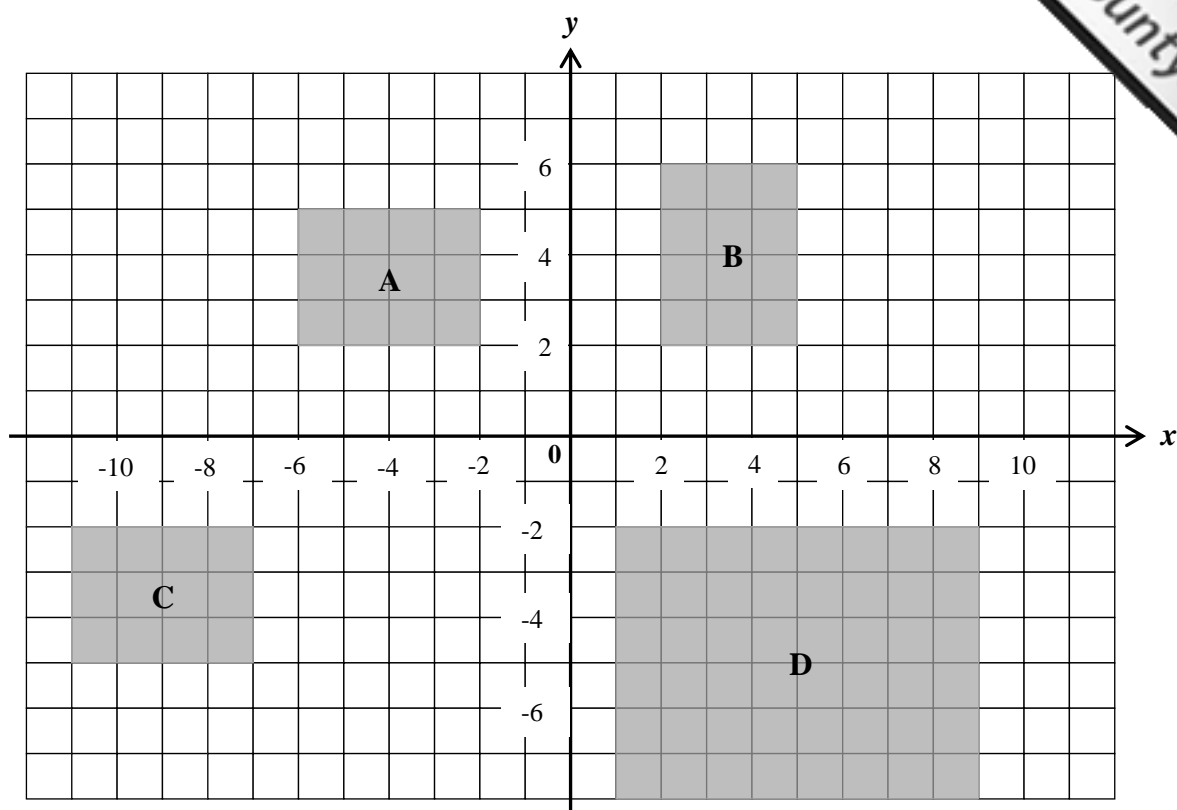
A

b) Using a protractor, **measure** angle C.

Angle C = _____°

c) **Underline** the correct word:

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

(6 marks)

11.

a) Shape A is **translated** to shape C by _____ squares to the left and 7 squares _____.

b) Shape _____ is an **enlargement** of shape A by scale factor _____.

c) Shape _____ is a **rotation** of shape A by 90° clockwise.

(5 marks)

12. Mary did a **survey** on TV programmes. The responses of 12 of her classmates are shown below.

Film   News   Film   Documentary   Sports   Quiz

Film   Film   Quiz   Documentary   News   News

a) **Fill in** the empty cells in the following table.

TV PROGRAMME	TALLY	FREQUENCY
Film		
Quiz	||	
News	|||	3
Documentary		
Sports		1
TOTAL	卌 卌 ||	12 Students

b) Use the table to name the **mode**.

_____

c) **Fill in** the table as shown by calculating the angle represented by each programme.

TV Programme	Working	Angle in Pie Chart
Film	$(360° \div 12) \times 4 =$	120°
Quiz		
News		
Documentary		
Sports		

d) Now **draw** the pie chart in the circle below.
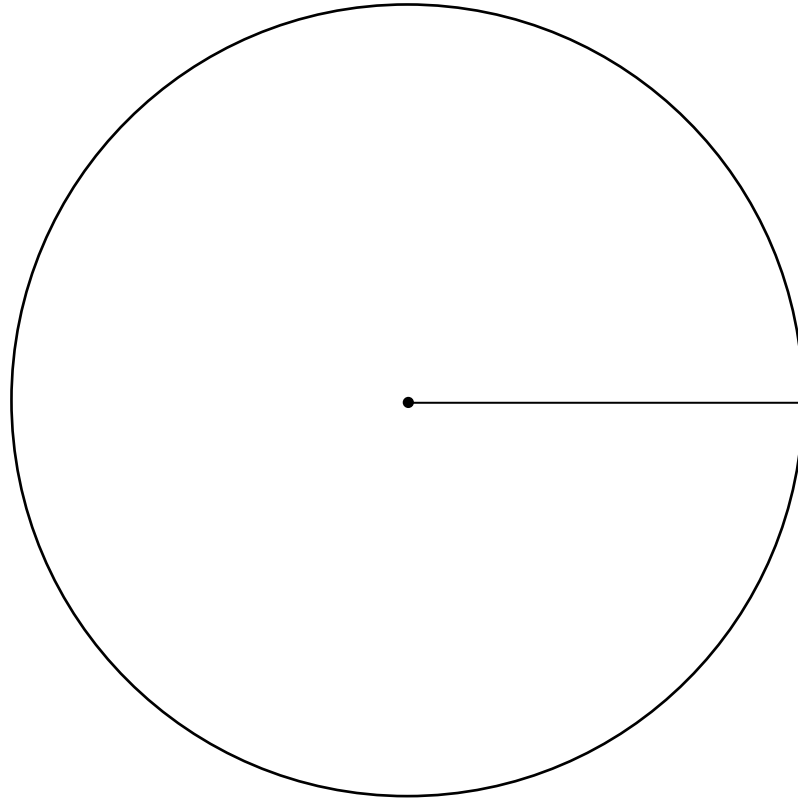
e) In the school Mary attends there are **900** students. **How many** are expected to prefer to watch the **news** on TV?

_____ students

(12 Marks)

END OF PAPER