



Annual Examinations for Secondary Schools 2015

FORM 5

**MATHEMATICS SCHEME D
Non Calculator Paper**

TIME: 20 minutes

Name: _____

Class: _____



Instructions to Candidates

- **Answer ALL questions.**
 - **This paper carries a total of 20 marks.**
 - **Calculators and protractors are not allowed.**
-

1. **Complete** the following to write 75% as a **fraction** in its **lowest terms**.

$$75\% = \frac{75}{100} = \underline{\hspace{2cm}}$$

(1 mark)

2. An ice cream costs €2.20.

- a) Joanne buys 4 ice creams.
Work out the **total** cost.



€ _____

- b) Joanne pays with a €10 note.
Work out the amount of **change** (money left) which she receives.

€ _____

(4 marks)

3. a) **Draw** figure 4 in the sequence shown below.



Figure 1



Figure 2



Figure 3

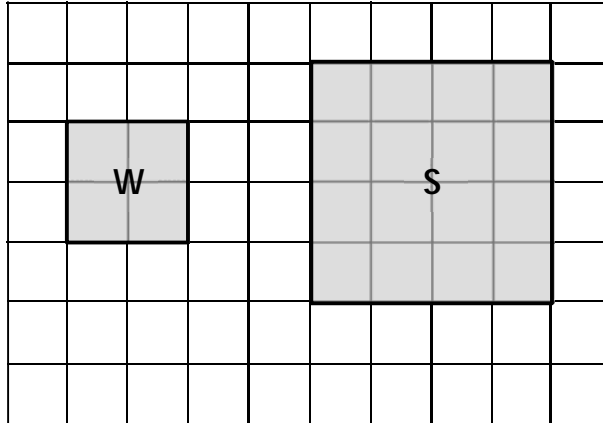
Figure 4

- b) **Fill in** the missing terms.

4, 7, 10, _____, _____

(3 marks)

4. Look at the two squares below.



Underline the correct one:

Square S is (a reflection, a rotation, an enlargement) of square W.

(1 mark)

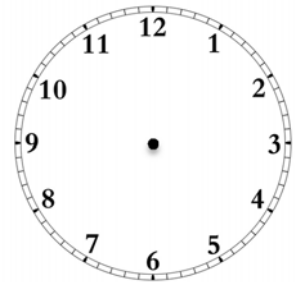
5. Paul leaves home at 07:20 and walks to school.

a) **Mark with arrows** 07:20 on the clock face shown.

b) Paul arrives at school at 07:45.

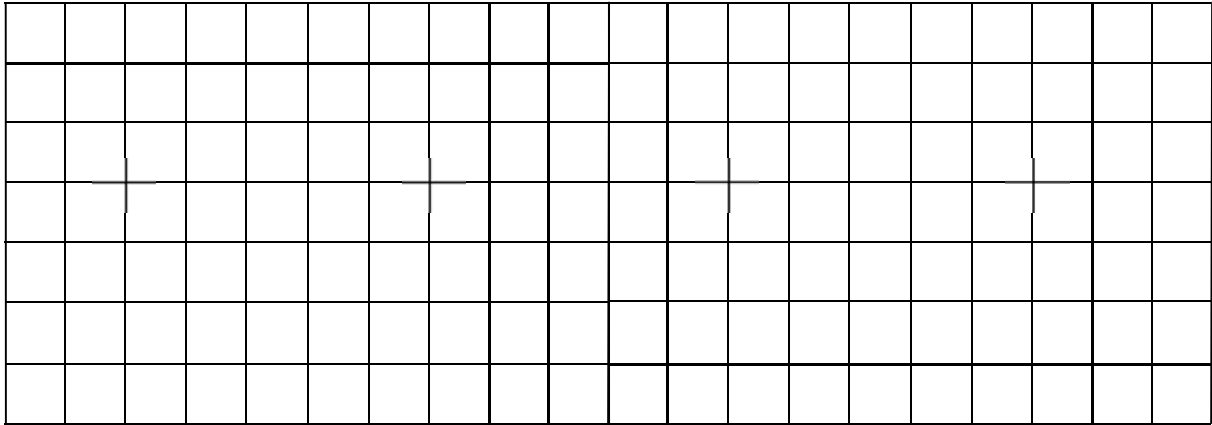
i) The time 07:45 is **quarter** to _____.

ii) It takes Paul _____ minutes from home to school.



(3 marks)

6.



- a) In the space above, draw **three different rectangles** with an area of 12 squares each.
- b) Mark an **X** on the rectangle with the **largest perimeter**.
- c) Work out the **perimeter** of this rectangle.

Perimeter = _____
(5 marks)

7. **Simplify** the following expression.

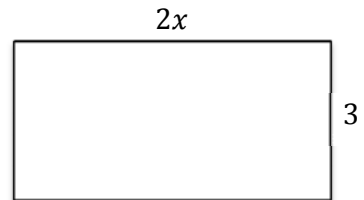
a) $3x - 1 + 2x - 1 =$ _____

b) A rectangle has a length of $2x$ cm and a width of 3 cm.

Underline the correct expression.

i) The **perimeter** of the rectangle is:

$10x$ $2x + 3$ $4x + 6$



ii) The **area** of the rectangle is:

$5x$ $6x$ $2x + 3$

(3 marks)

END OF PAPER



Annual Examinations for Secondary Schools 2015

FORM 5

MATHEMATICS SCHEME D
Main Paper

TIME: 1h 40min

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	Main	Non Calculator	Total

Name: _____

Class: _____

Instructions to Candidates

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

1. Match each percentage to a fraction.

25%

$\frac{1}{2}$

50%

$\frac{1}{5}$

75%

$\frac{1}{4}$

20%

$\frac{3}{4}$

(4 marks)

2. Put the signs $+$, $-$, \times , \div in the space indicated for each calculation.

Note: All signs must be used only **once!**

a) $10 \square 2 = 12 \square 8$

b) $30 \square 3 \square 2 = 8$

(4 marks)

3. a) Fill in to reduce this fraction to its **lowest terms**:

$$\frac{12}{20} = \frac{\quad}{10} = \frac{3}{\quad}$$

b) Fill in to change this mixed number into an **improper fraction**:

$$2\frac{2}{3} = \frac{\quad}{3}$$

c) Fill in:

$$\frac{1}{4} + \frac{1}{2} = \frac{1}{4} + \frac{\quad}{4} = \frac{\quad}{4}$$

(6 marks)

4. The exchange rate from Euro (€) to Sterling (£) is

$$\text{€1} = \text{£0.84}.$$

Tony is travelling to the UK and needs to change **€200** into **£**.
How much **money** (in **£**) does he get?

£ _____

(3 marks)

Name: _____

Class: _____

D

5. A group of students took the following temperature readings ($^{\circ}\text{C}$) during an experiment.

15 15 16 22 19 14 18

Work out:

- a) the **mean** temperature during the experiment.

Ans: _____ $^{\circ}\text{C}$

- b) the **mode** temperature reading.

Ans: _____ $^{\circ}\text{C}$

- c) the **median** temperature reading.

Ans: _____ $^{\circ}\text{C}$

(6 marks)

6. Matt throws a fair six-sided die and tosses a fair coin.

- a) **Fill in** the possibility space below.



		Die					
		1	2	3	4	5	6
Coin	Heads	H1	H2			H5	
	Tails			T3	T4		T6

- b) Use the possibility space to work out the **probability** that Matt gets:

- i) **Heads** with an **even** number.

Ans: _____

- ii) **Tails** with a number **less than 3**.

Ans: _____

(7 marks)

7. Paul is **20** years old and Mary is **30** years old.

a) **Simplify** the ratio 20 : 30

$$20 : 30$$

$$\underline{\hspace{1cm}} : 15$$

$$2 : \underline{\hspace{1cm}}$$

Paul and Mary share **€60** in the **ratio of their ages**.

b) Work out the amount of **money** Paul gets.

€ _____

(4 marks)

8. a) **Use arrows to match** each coordinate with the equation of the line.

(3,3)

$$y = 5x$$

(1,5)

$$y = x + 1$$

(7,8)

$$y = x$$

b) **Solve**

i) $4x - 7 = 13$

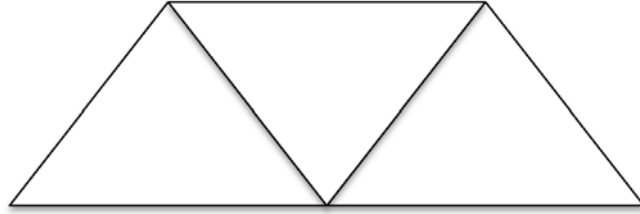
ii) $\frac{2x}{3} = 6$

$x = \underline{\hspace{1cm}}$

$x = \underline{\hspace{1cm}}$

(9 marks)

9. Look at the shape below.



a) Write down the number of:

i) **Triangles** in the shape. _____

ii) **Parallelograms** in the shape. _____

iii) **Trapeziums** in the shape. _____

b) Each triangle has a **base** of 7 cm and a **height** of 5 cm. Work out the **area** of:

i) a **triangle**.

Area = _____ cm²

ii) the **whole shape**.

Area = _____ cm²

(8 marks)

10. a) A rope is **3.6 m** long. The rope is cut into **four equal** parts.
How long is **one part** of the rope? Give your answer in **cm**.

Length of one part = _____ cm

- b) In a bag there are **900 g** of fruits, **1.5 kg** of vegetables and **350 g** of meat. Work out the **total mass** of the bag. Give your answer in **kg**.

Total mass = _____ kg

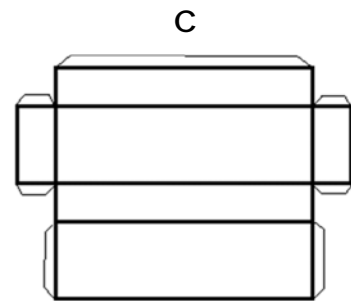
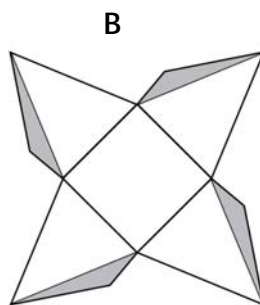
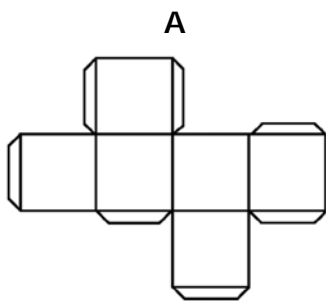
- c) An athlete runs **10 km** a week. By Wednesday, she has covered a distance of 4000 m. What distance, **in km**, does she still have to cover?

Distance = _____ km

(8 marks)

11. The figures show the nets of three shapes.

- a) **Fill in** the name of the shape in each case.



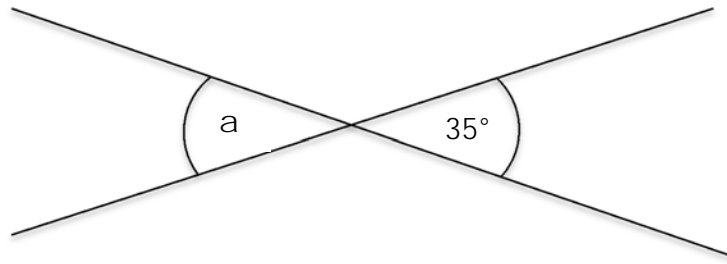
- b) **Complete** the table below.

Shape	Faces	Vertices	Edges
A	6		12
B		5	
C	6		12

(7 marks)

12. **Work out** the marked angles and **underline** the correct **reason** for each answer.

a) The figure shows two intersecting **straight lines**.

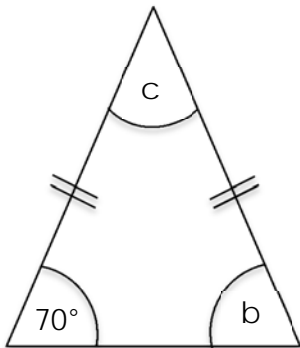


Angle a = _____ °

Underline the correct reason:

Alternate angles, Sum of angles in a triangle, Vertically opposite angles

b) The figure shows an **isosceles** triangle.



Angle b = _____ °

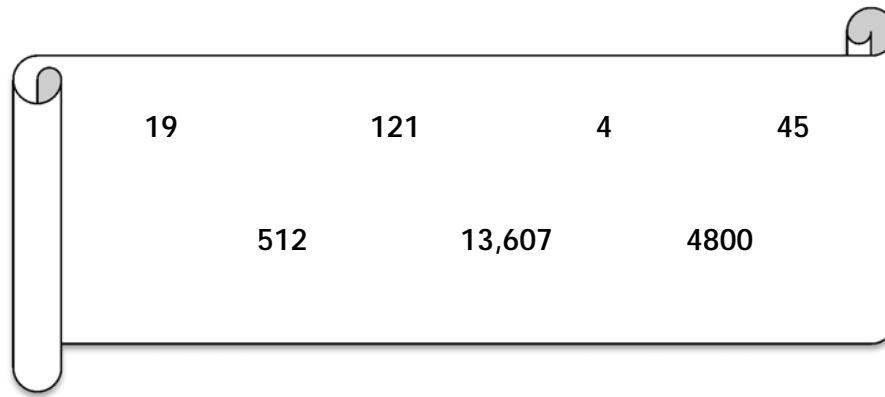
Angle c = _____ °

Underline the correct reason:

Alternate angles, Sum of angles in a triangle, Vertically opposite angles

(7 marks)

13.



From this list of numbers choose:

- a) A **factor** of 60. _____
- b) The **value** of 8^3 . _____
- c) A **multiple** of 15. _____
- d) The **value** of 4.8×10^3 . _____
- e) Thirteen thousand six hundred and seven. _____
- f) The number which when added to 981 makes **one thousand**. _____
- g) A **square** number. _____

(7 marks)

END OF PAPER