

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2009

Directorate for Quality and Standards in Education
Educational Assessment Unit



FORM 3

MATHEMATICS SCHEME C

TIME: 30 minutes

Non-Calculator Paper

Name: _____

Class: _____

Mark

Instructions to Candidates

- **Answer all questions. There are 12 questions to answer.**
- **Calculators, protractors and other mathematical instruments except rulers are not allowed.**
- **This paper carries 25 marks.**

1. The best estimate for 120×21 is:
(A) 240 (B) 2400 (C) 3800 (D) 600

Answer: _____

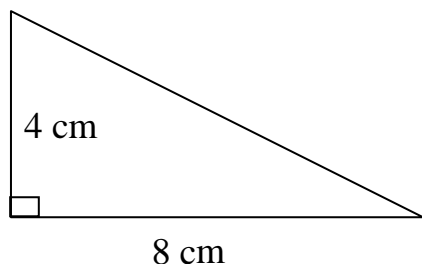
(1 mark)

2. Work out $\frac{1}{10} + \frac{2}{5}$. Give your answer in its lowest terms.

Answer: _____

(1 mark)

3. Work out the area of the triangle.



Answer: _____

(1 mark)

4. In a test, the ratio of John's mark to Paul's mark is 2:3. Their total is 100 marks.

- a) What is John's mark?

Answer: _____

- b) What is Paul's mark?

Answer: _____

(2 marks)

5. Solve the equation $5x = 10$.

Answer: _____

(2 marks)

6. A television set costs €200. During a sale I bought it for 20% less. Work out, how much I saved.

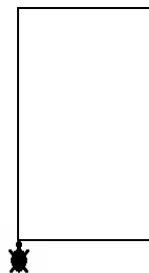
Answer: € _____

(1 mark)

7. This LOGO program draws the rectangle with sides 200 and 100 turtle steps as shown. Complete the program by filling the underlined, empty spaces:

PD

REPEAT 2[_____ 200 RT _____ FD _____ RT _____]



(3 marks)

8. The temperature in Malta is 16°C, in Athens 11°C and in Rome 15°C.

(a) By how many degrees is Malta warmer than Athens?

Answer: _____

(b) By how many degrees must the temperature in Athens rise so that it is as warm as it is in Rome?

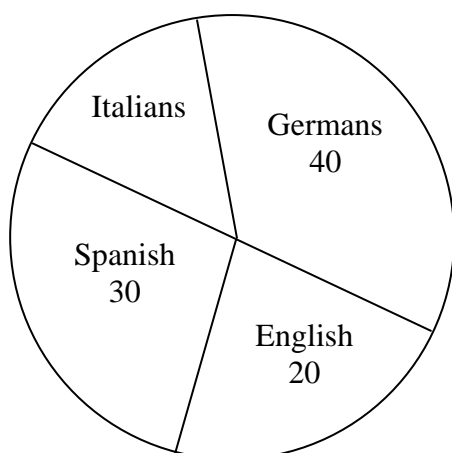
Answer: _____

(c) What is the mean temperature?

Answer: _____

(4 marks)

9.



Number of tourists in a hotel

The pie chart shows 100 tourists from different countries in a hotel.

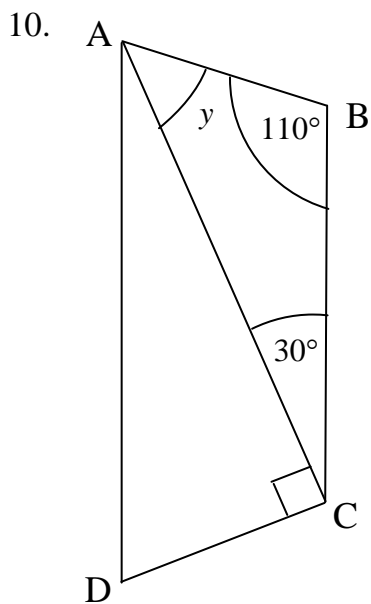
a) How many different countries are shown in the pie chart?

Answer: _____

b) How many Italians were in the hotel?

Answer: _____

(2 marks)



From the figure:

a) What is the value of y ?

Answer: _____

b) Two lines are parallel. Which are they?

Answer: _____

c) What is the size of $\angle BCD$?

Answer: _____

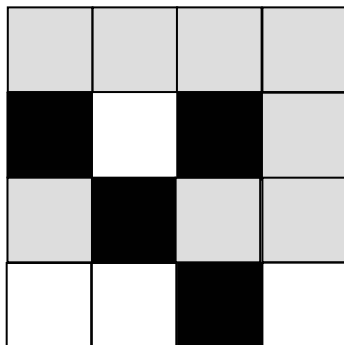
(3 marks)

11. Complete the following sequence:

1 8 15 _____ 29 _____

(2 marks)

12.



A fly lands on one of the tiles shown in the diagram. Giving your answer in its lowest terms, work out the probability that it:

(a) lands on a white tile

Answer: _____

(b) lands on a grey tile

Answer: _____

(c) lands on a non-black tile

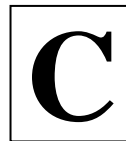
Answer: _____

(3 marks)

END OF PAPER

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**FORM 3****MATHEMATICS SCHEME C****TIME: 1h 30min****Main Paper**

1	2	3	4	5	6	7	8	9	10	11	12	13		NC	Main	Total

Name: _____**Class:** _____

Answer all questions.
Calculators are allowed but all necessary working must be shown.

1. Work out the following. Give your answer correct to 2 decimal places:

(a) 323.516×171

(b) $56.784 \div 51$

Answer: _____**Answer:** _____**(4 marks)**

2. (a) Work out the following and give your answer in its simplest form.

$$\frac{1}{6} + \frac{1}{3} =$$

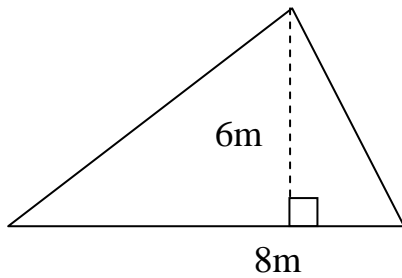
Answer: _____

- (b) Work out the following and give your answer in its simplest form.

$$\frac{3}{5} - \frac{1}{10} =$$

Answer: _____**(4 marks)**

3.



A field is in the shape of a triangle with base 8 m and height 6 m.

(a) Work out the area of the field in cm^2 .

Answer: _____ cm^2

(b) A strawberry bush needs the area of a square of side 25 cm to grow properly. How many strawberry bushes can a farmer plant in the field?

(7 marks)

4. (a) Simplify the expression: $9a + 3b - 2a + 5b$.

(b) Factorise the expression: $9q + 3p$.

(c) Work out the value of $3x + 5y - 3z$ given that $x = 2$, $y = 3$ and $z = 4$.

(5 marks)

Name: _____

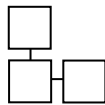
Class: _____

C

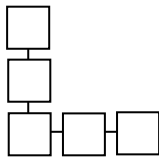
5.



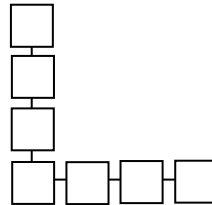
Shape 1



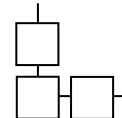
Shape 2



Shape 3



Shape 4

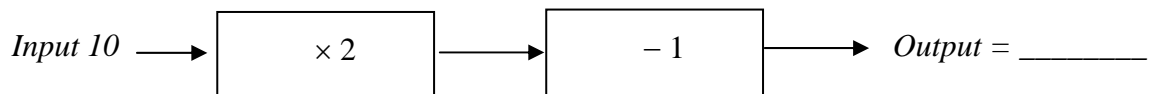


Shape 5

(a) Complete Shape 5 in the space provided.

(b) Shape 7 has _____ squares.

(c) This function machine gives the number of squares for any shape. Use the function machine to find the number of squares for Shape 10.



(6 marks)

6. Mr. Vella has 7 shirts. Of these 3 are red, 2 are white and the rest are green. He finds that one shirt is missing.

(a) What is the probability that the missing shirt is a green one?

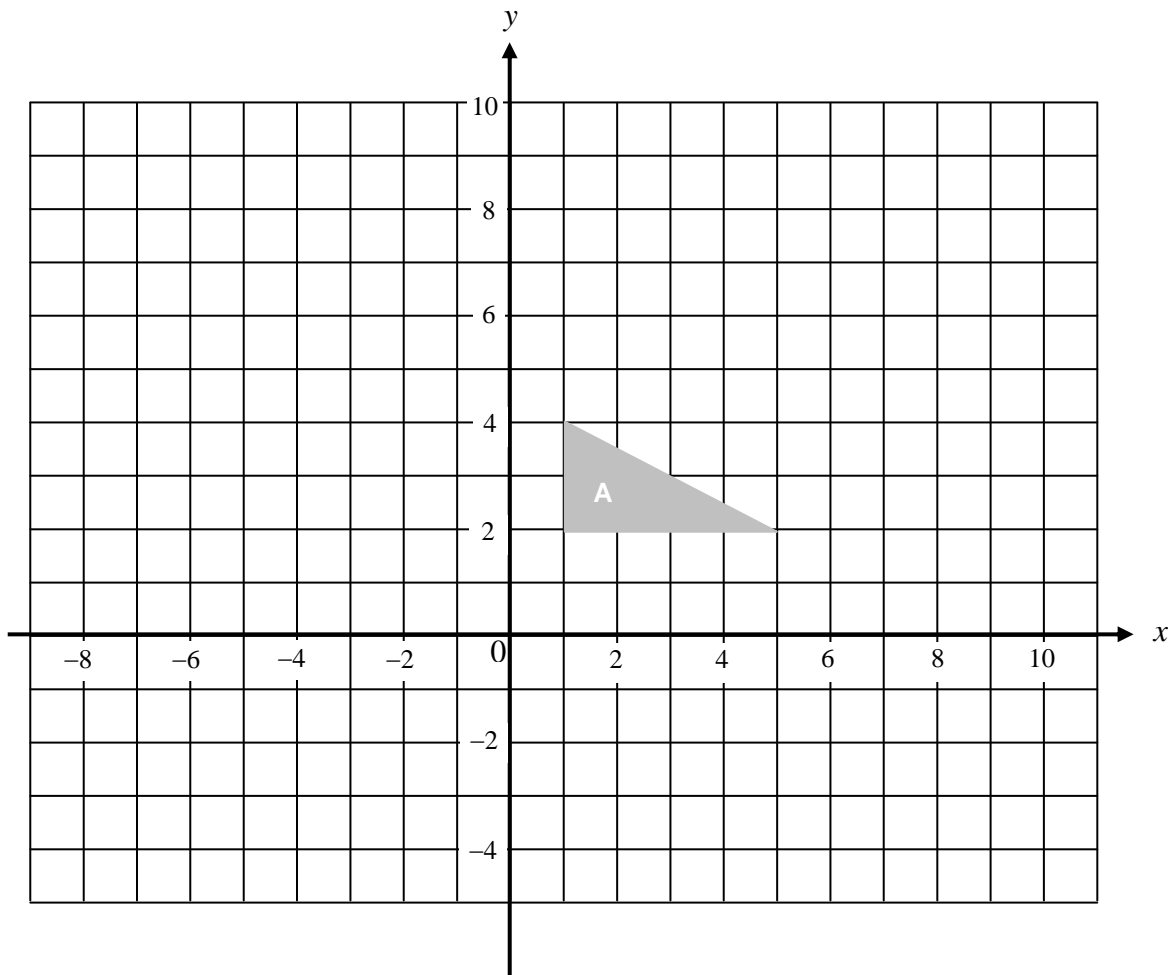
Answer: _____

(b) What is the probability that the shirt is *not* white?

Answer: _____

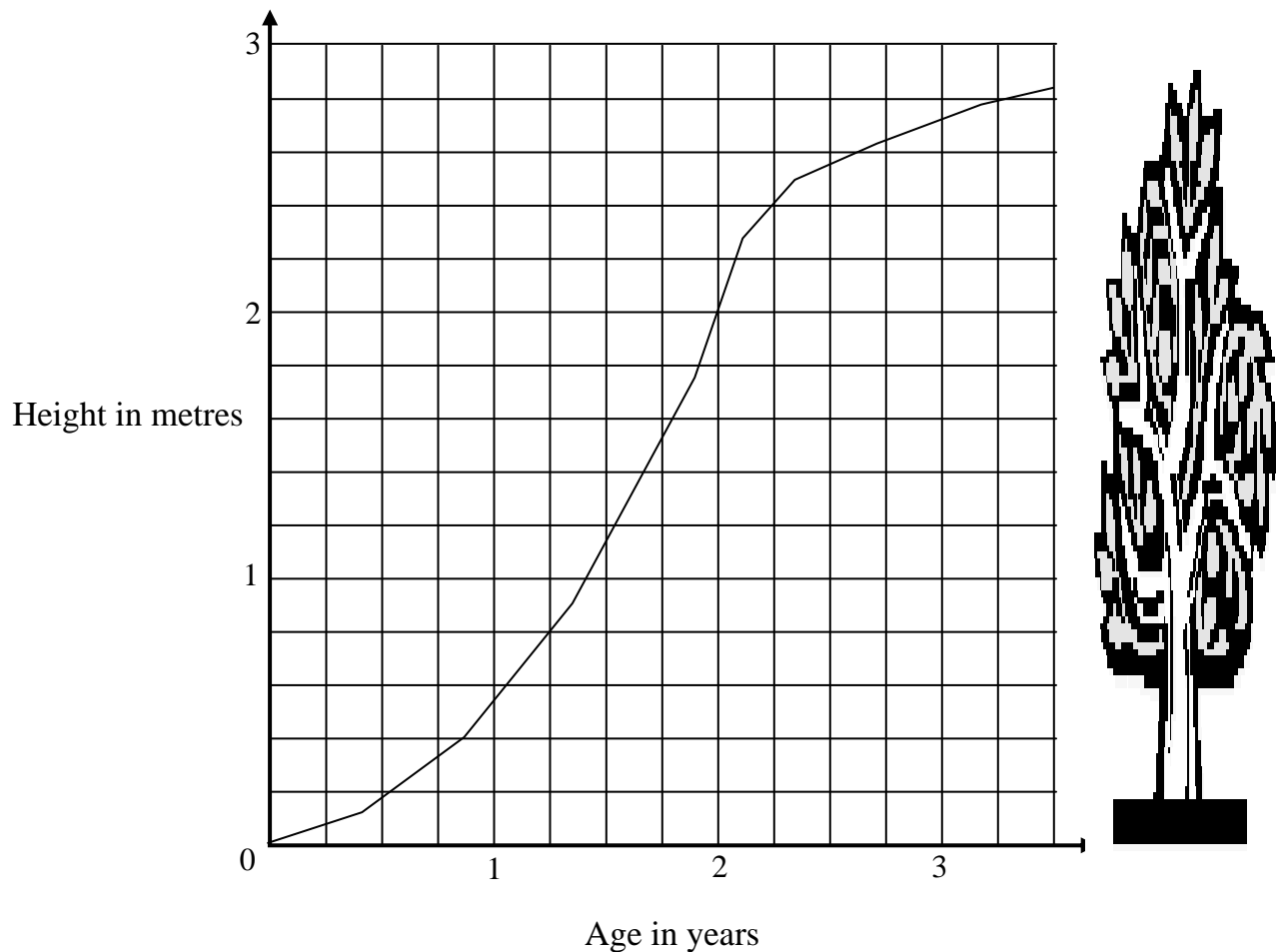
(4 marks)

7. (a) Rotate shape A 90° anticlockwise about the point (1, 2). Label the resulting shape B.
- (b) Reflect shape A in the x -axis. Label the resulting shape C.
- (c) Translate shape A 5 units to the left and 5 units down. Label the resulting shape D.



(8 marks)

8. The graph below shows the height of a tree in metres and the age in years.



(a) How high was the tree when it was one year three months old?

Answer: _____ cm

(b) How old was the tree when it was 2 m 40 cm tall?

Answer: _____ years _____ months

(c) By how much did the tree grow in its second year?

Answer: _____

(8 marks)

9. In this question show clearly any construction lines you may have used.

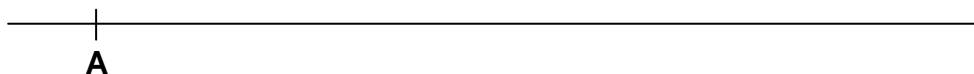
(a) On the line below mark the point B which is 10 cm away from A.

(b) Draw the triangle ABP where $AP = 6$ cm and $BP = 8$ cm.

(c) Measure and write down the size of angle APB.

Answer: _____

(d) Construct the perpendicular bisector of AB. Mark the centre of AB with the letter C.



(6 marks)

10. Lara works in an office and is paid €7.50 per hour. She works daily from 08.00 to 17.00 with an hour break every day from Monday to Friday.

(a) How many hours does she work per day?

Answer: _____

(b) How many hours does she work per week?

Answer: _____

(c) How much does she earn per week?

Answer: _____

(6 marks)

11. (a) Paul is three years older than Mark.

(i) Let p years be Paul's age, and let q years be Mark's age. Complete the equation:

$$p = \underline{\hspace{1cm}} + \underline{\hspace{1cm}}$$

(ii) If Paul is five years old, how old is Mark?

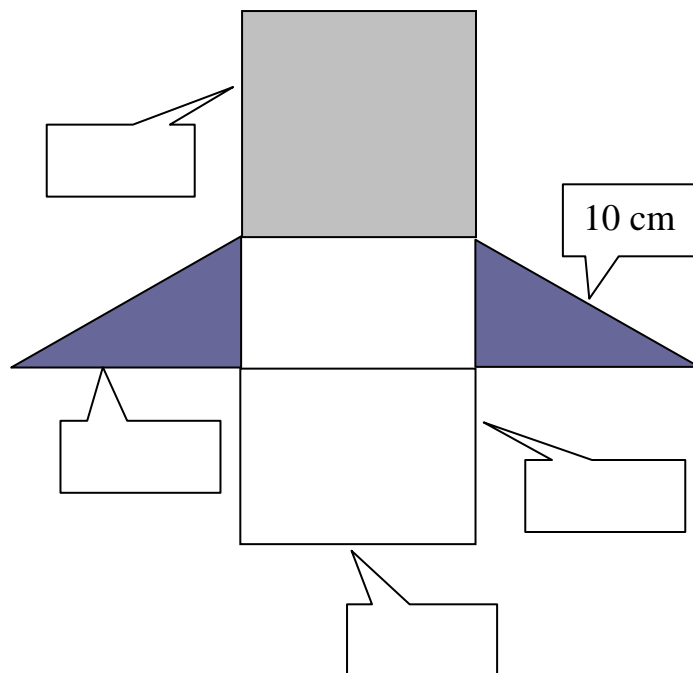
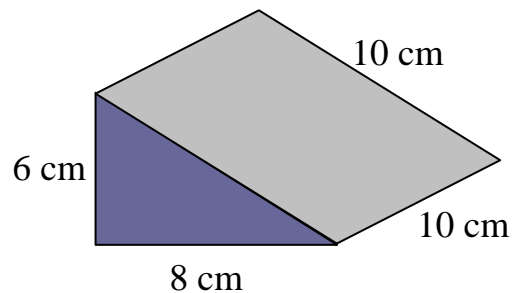
Answer: _____

- (b) Anna and Betty share between them €1500 in the ratio 3:2. Work out Anna's and Betty's share.

Answer: Anna: €_____ Betty: €_____

(6 marks)

12. Below is a prism and its net:



- (a) Write down the length of the sides in the boxes provided.
- (b) Work out the volume of the prism.

Answer: _____ cm^3

(6 marks)

13. The table shows the marks obtained by eleven students in an English test.

11 12 17 23 41 48 60 60 60 65 76

- (a) What is the median mark?

Answer: _____

- (b) Work out the mean mark.

Answer: _____

(5 marks)

End of Paper