

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.

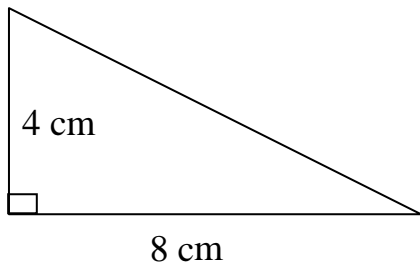
1. The best estimate for 120×21 is:
(A) 240 (B) 2400 (C) 3800 (D) 600

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)

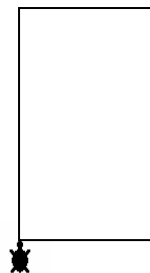
6. A television set costs €200. During a sale I bought it for 20% less. Work out, much I saved.

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?

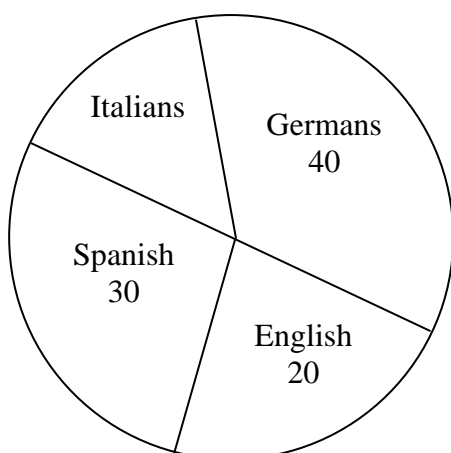
Answer: _____

(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.

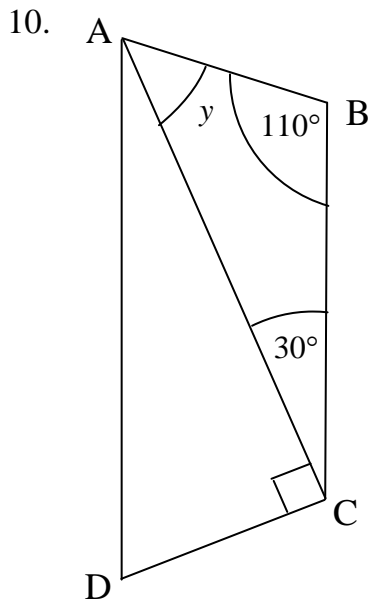
a) How many different countries are shown in the pie chart?

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: _____

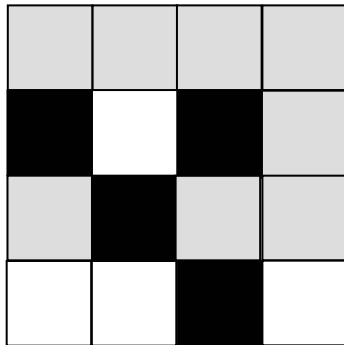
(3 marks)

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

SECONDARY SCHOOL ANNUAL EXAMINATIONS 200Directorate for Quality and Standards in Education
Educational Assessment Unit**FORM 3****MATHEMATICS SCHEME C****TIME: 1h 30m****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.

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

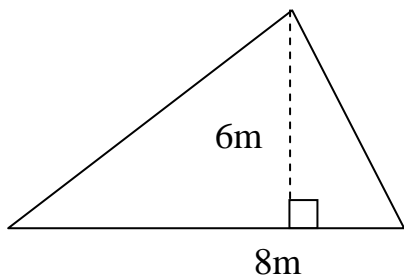
Answer: _____

- (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)

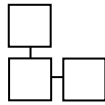
Name: _____

Class: _____

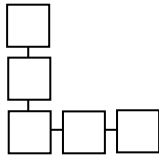
5.



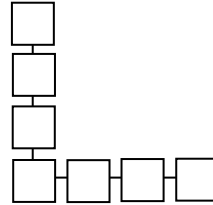
Shape 1



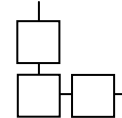
Shape 2



Shape 3

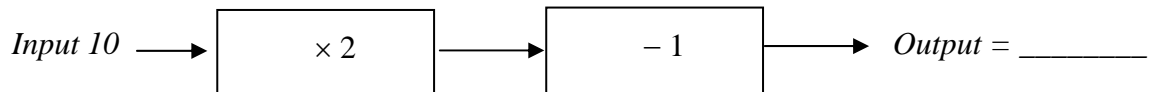


Shape 4



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 Shape10.



(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?

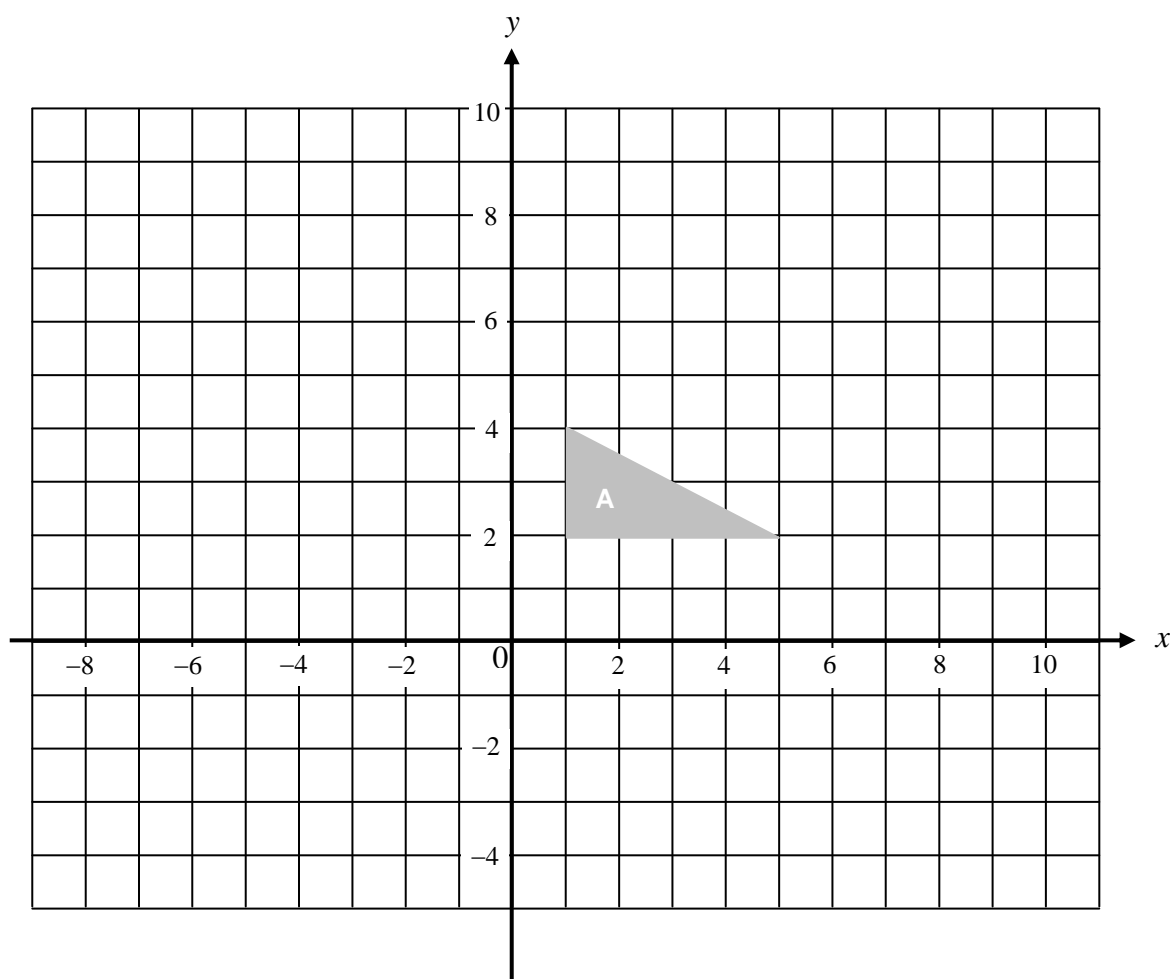
Answer: _____

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

Answer: _____

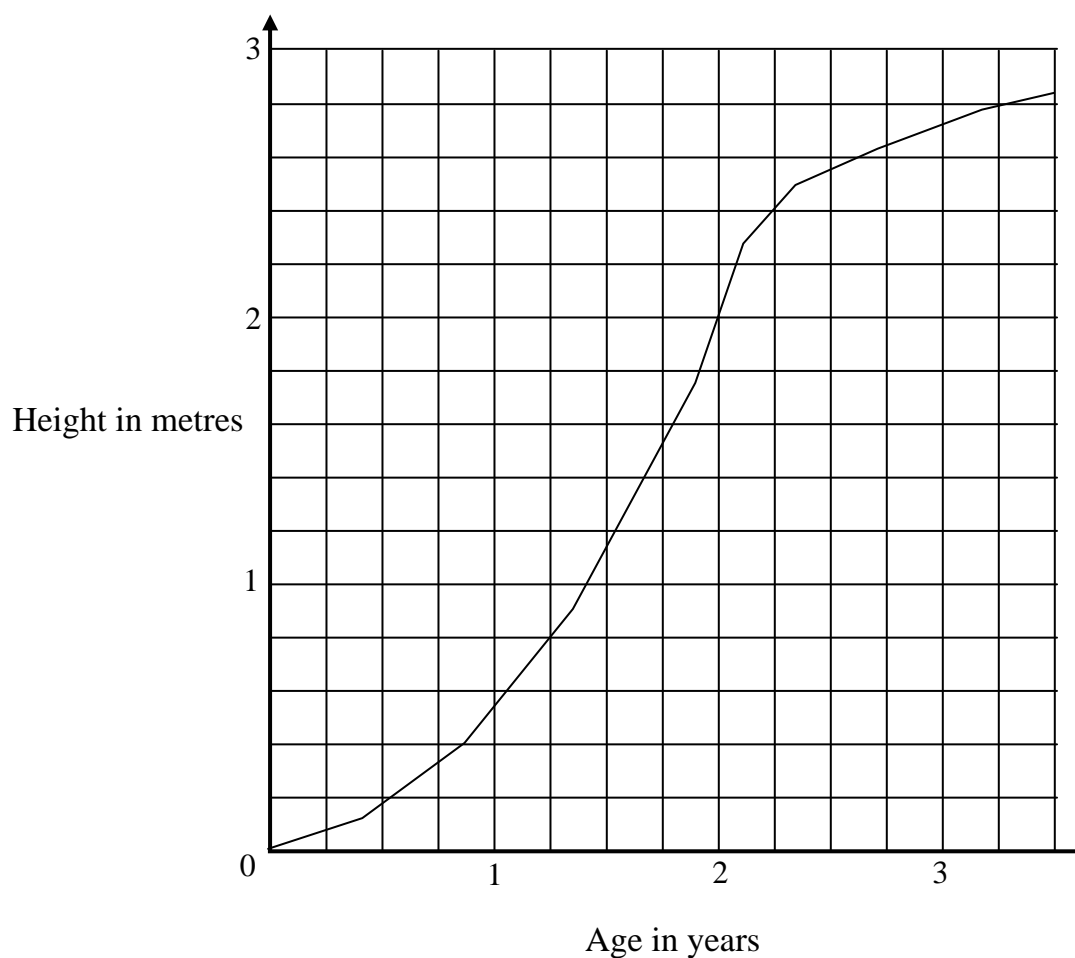
(4 marks)

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: _____

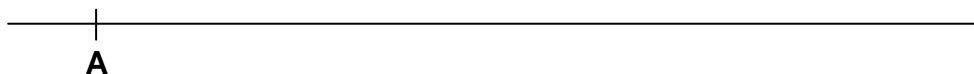
(8 marks)

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 8.00 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?

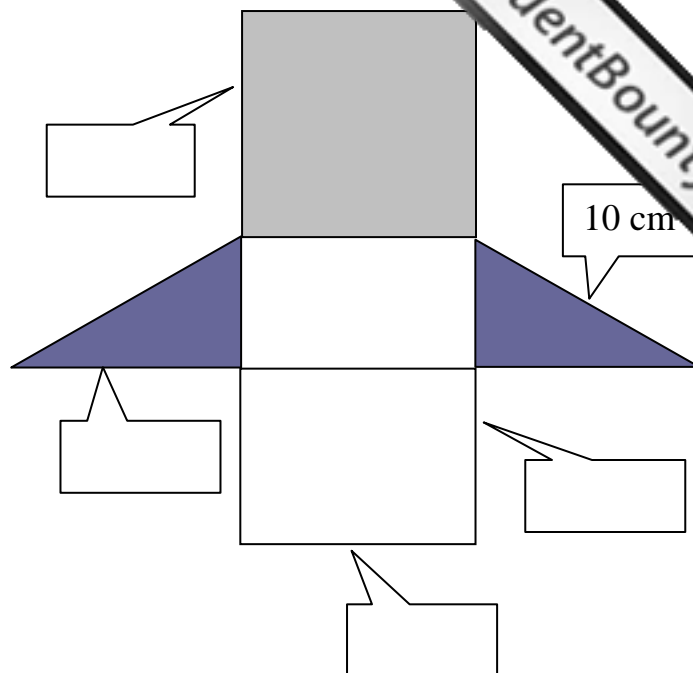
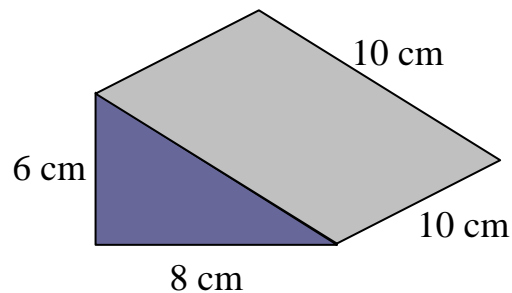
Answer: _____

- (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