

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

Directorate for Quality and Standards in Education
Educational Assessment Unit

StudentBounty.com

FORM 5

MATHEMATICS SCHEME C
Non Calculator Paper

TIME: 20 minutes

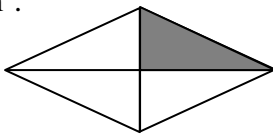
Name: _____

Class: _____


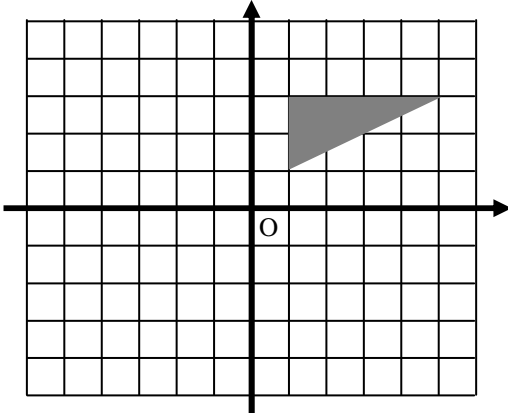
Mark

INSTRUCTIONS TO CANDIDATES

- **Answer all questions. There are 20 questions to answer.**
- **Each question carries 1 mark.**
- **Calculators and protractors are not allowed.**
- **You are not required to show your working.**
- **However space for working is provided if you need it.**

No.	QUESTION	SPACE FOR ANSWER (IF REQUIRED)
1.	The volume of a cube of side 5cm is A) 25 cm^3 B) 125 cm^3 C) 15 cm^3 D) 10.5 cm^3 Answer: _____	
2.	The value of 10.1×0.1 is A) 101 B) 10.1 C) 1.01 D) 0.101 Answer: _____	
3.	Change $\frac{4}{25}$ into a percentage. Answer: _____	
4.	Simplify $\frac{1}{4}$ of $\frac{1}{2}$ Answer: _____	
5.	The area of the rhombus shown is 160 cm^2 . What is the area of the shaded triangle? Answer: _____ cm^2	
6.	Kyle obtained 23, 17, 21, 19 and 40 in her Maths tests during the year. What was her average mark? Answer: _____	
7.	In a box of 200 chocolates, 20% have a red wrapper. The rest have a silver wrapper. How many chocolates have a silver wrapper? Answer: _____	
8.	Which is the largest number? A) $\frac{5}{9}$ B) $\frac{2}{3}$ C) $\frac{7}{6}$ Answer: _____	

9.	John buys 16 postcards for €2. How much must he pay for 8 postcards? Answer: _____	
10.	What is the sum of the exterior angles of a hexagon? A) 180° B) 360° C) 720° D) 540° Answer: _____	
11.	Given that $y = 4 - 12p$ what is the value of y when $p = 2$? Answer: _____	
12.	I invest €2000 at 2.5% p.a. simple interest. Find the interest earned after 2 years. Answer: _____	
13.	Write down the best estimate for the circumference of a circle of radius 10 cm. A) 20 cm B) 310 cm C) 60 cm D) 190 cm Answer: _____	
14.	There are 250 students in a school. If 25 of these students study French, what is the probability that a student who studies French is selected at random? Answer: _____	
15.	A square has an area of 16 cm^2 . What is the length of its sides? Answer: _____ cm	

16.	<p>Fred walked a distance of 1257 m. Write down the distance covered in metres correct to the nearest 10 metre.</p> <p>Answer: _____</p>	
17.	<p>The turtle is at the START position shown.</p> <p>Sketch the figure drawn by the turtle for this set of LOGO commands:</p> <p style="text-align: center;">PD RT 90 FD 100 LT 90 FD 200</p>	
18.	<p>A tree T lies 100 m North of a church C. John walks 100 m due East from the tree. Which is the correct bearing of John from the church?</p> <p>A) 100° B) 135° C) 045° D) 270°</p>	
19.	<p>Rotate the shape shown 90° anticlockwise about the origin O.</p> <div style="text-align: center;">  </div>	
20.	<p>Simplify $3x + 2y - 2x - x$.</p> <p>Answer: _____</p>	

SECONDARY SCHOOL ANNUAL EXAMINATIONS 2010

Directorate for Quality and Standards in Education
Educational Assessment Unit

StudentBounty.com

FORM 5

MATHEMATICS SCHEME C
Main Paper

TIME: 1h 40min

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

Name: _____

Class: _____

INSTRUCTIONS:

**CALCULATORS ARE ALLOWED. SHOW ALL NECESSARY WORKING.
ANSWER ALL QUESTIONS.**

1. Work out the following to the nearest whole number:

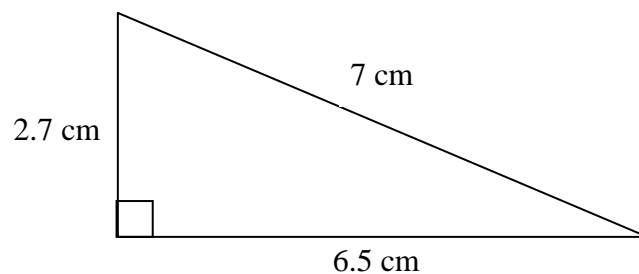
(a) $56.56 \times 62.71 =$ _____

(b) $234.56 \div 27.2 =$ _____

[4 marks]

2. Work out

(a) the area correct to 2 decimal places.



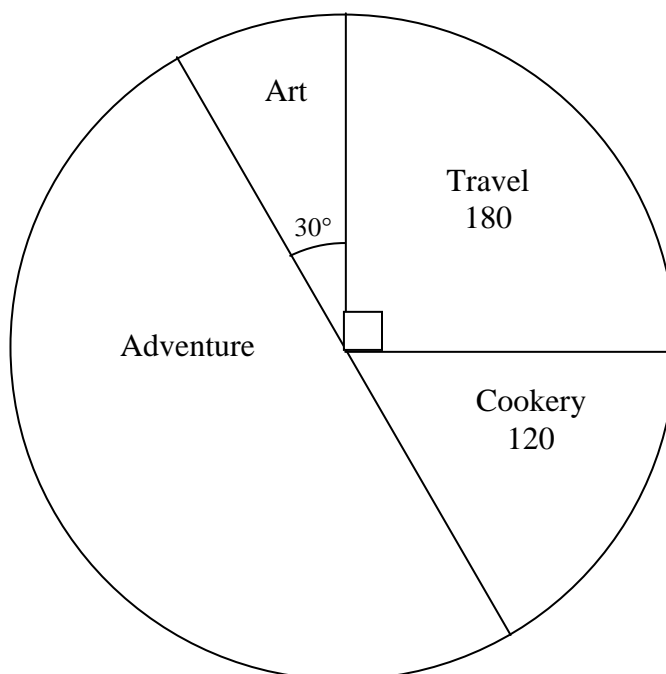
Answer: _____

(b) the perimeter of the triangle.

Answer: _____

[5 marks]

3.



The pie chart shows the number of different types of books borrowed from a public library in one day.

(a) How many Art books were borrowed?

Answer: _____

(b) How many Adventure books were borrowed?

Answer: _____

(c) What was the total number of books borrowed?

Answer: _____

(d) Find the percentage of Travel books borrowed.

Answer: _____

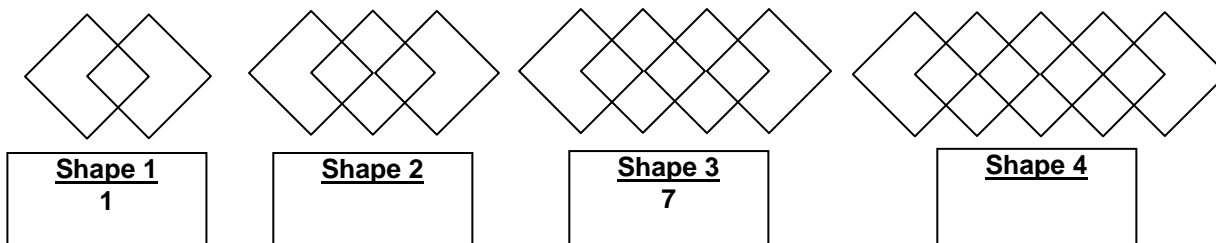
[8 marks]

Name: _____

Class: _____

C

4. (a) Write down in the space provided the number of *small* squares in each of the shapes shown:



- (b) What is the number of small squares for shape 5?

Answer: _____

- (c) The rule for this pattern is: *add three to the term before it.*
What is the number of small squares for shape 7?

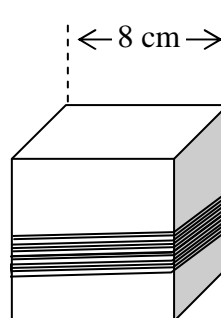
Answer: _____

[6 marks]

5. (a) Work out the area of a circle of radius 10 cm. Give your answer correct to the nearest cm^2 . (*The area of a circle is πr^2 , where r is the radius.*)

Answer: _____ cm^2

- (b) A string is wound exactly 10 times round a cube of side 8 cm. What is the length of the string?



Answer: _____ cm

[6 marks]

6. A car mechanic charges €15 per hour for labour. It took him 12 hours to fix Borg's car and the parts cost €125. The VAT rate is 18%.

(a) How much did Mr. Borg pay for the labour *without* VAT?

Answer: _____

(b) How much did Mr. Borg pay in all *without* VAT?

Answer: _____

(c) How much VAT did Mr. Borg pay?

Answer: _____

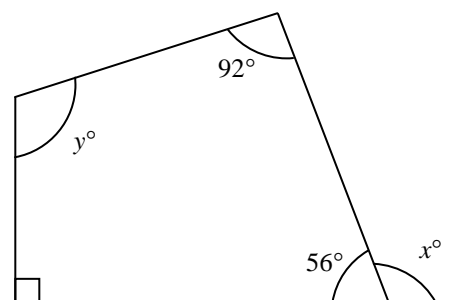
[6 marks]

7. (a) Work out
(i) The angle x .

$x =$ _____

(ii) The angle y .

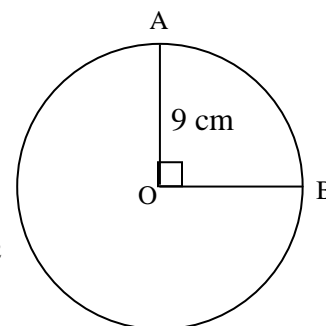
$y =$ _____



(b) OAB is the sector of a circle centre O radius 9 cm.

- (i) Work out to one decimal place the area of the circle.
(The area of a circle is πr^2 .)

Answer: _____ cm^2



- (ii) Work out to one decimal place the area of the sector AOB.

Answer: _____ cm^2

[6 marks]

8. A story is 5100 words long. The word YOU is found 300 times in the story. SKY is found 72 times.

(a) I pick a word at random. What is the probability that the word is YOU?
(Give your answer in its simplest form.)

Answer: _____

(b) The word YOU is removed from the story. How many words remain?

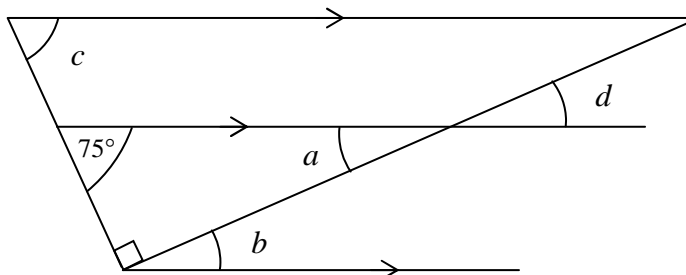
Answer: _____

(c) After removing the word YOU, I pick a word at random. What is the probability that the word is SKY? (Give your answer in its simplest form.)

Answer: _____

[5 marks]

9. Work out the value of the angles marked a , b , c and d .



(a) angle a = _____

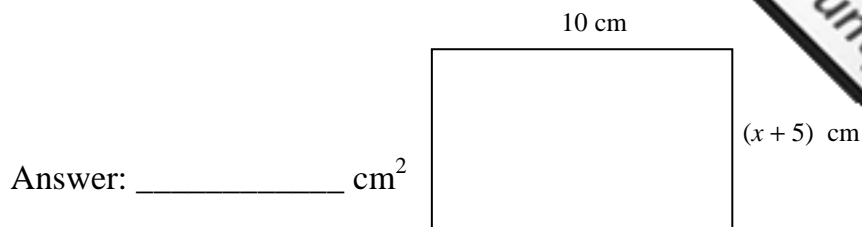
(b) angle b = _____

(c) angle c = _____

(d) angle d = _____

[8 marks]

10. (a) Write down and simplify an expression for the area of this rectangle.



- (b) A square piece of side 5 cm is cut off from the cardboard. What is the area of the piece cut off?

Answer: _____ cm^2

- (c) Write down and simplify an expression for the remaining area.

Answer: _____ cm^2

- (d) If $x = 3$ cm, what is the area of the remaining cardboard?

Answer: _____ cm^2

[8 marks]

11. (a) (i) Write down the square numbers found in the table:

12	17	15	8	4
16	13	22	19	27
36	11	23	21	6

- (ii) Write down the prime numbers found in the table:

- (b) (i) Factorise $5x - 10y$

- (ii) $3(2x + 3y) = \text{_____}x + \text{_____}y$

Answer: _____

[6 marks]

12. (a) John's car costs €2000 more than Fiona's.
 x represents the cost of Fiona's car.
 y represents the cost of John's car.

(i) Complete the following equation:

$$y = x + \underline{\hspace{2cm}}$$

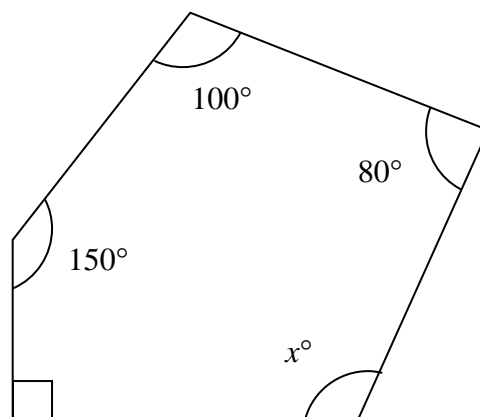
(ii) Fiona's car costs €6500. How much does John's car cost?

Answer: €

- (b) (i) What is sum of the interior angles of a pentagon?
 (The sum of the interior angles of an n -sided polygon is $90(2n - 4)^\circ$.)

Answer:

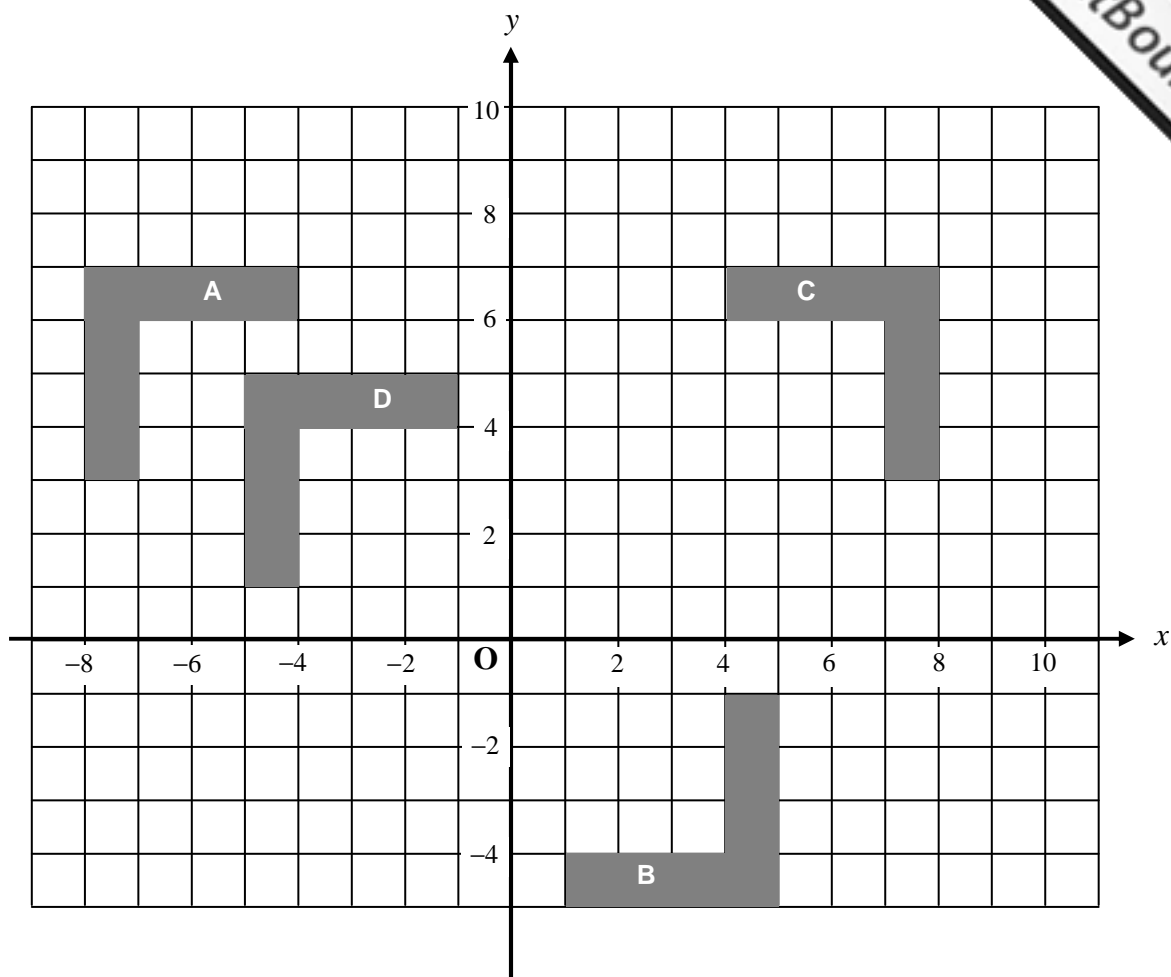
(ii) Find angle x° in the pentagon shown.



Answer:

[6 marks]

13.



(a) The reflection of Shape A in the y -axis is Shape _____.

(b) Shape B is the _____ rotation of Shape D about the origin.

(c) The translation of Shape D to Shape A is given by
(Tick the correct answer.)

(i) 2 to the left
3 down

☐

(ii) 5 to the right
3 up

☐

(iii) 3 to the left
2 up

☐

[6 marks]

End of Paper