DIRECTORATE FOR QUALITY AND STANDARDS IN EDUCATION
Department for Curriculum Management and eLearning
Educational Assessment Unit
Annual Examinations for Secondary Schools 2013

FORM 4   MATHEMATICS - SCHEME C   TIME: 20 minutes
                      Non Calculator Paper
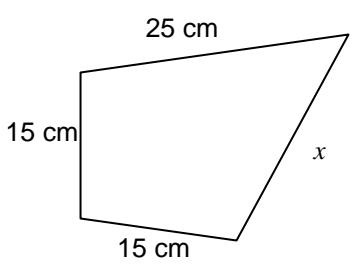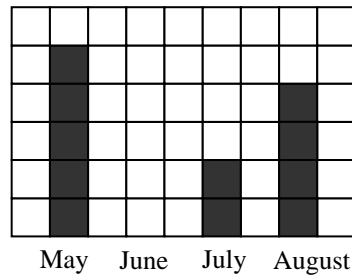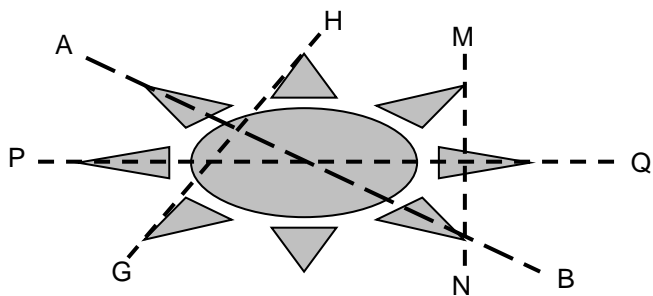
Name: _____   Class: _____

Mark

INSTRUCTIONS TO CANDIDATES

- **Answer all questions.**

- **This paper carries a total of 20 marks.**

- **Calculators and protractors are NOT ALLOWED.**

No.	Question	Space for w if required
1.	One of these numbers is a prime number. Which one is it? A) 2065 B) 3434 C) 591 D) 31 Answer: _____	
2.	Solve: $2x - 15 = 5$ Answer: _____	
3.	What is the area of the triangle? (Each square is 1 cm by 1 cm.) Answer: _____ cm^2	
4.	Work out the mean of the following numbers: 12 12 12 22 12 Answer: _____	
5.	Write down the largest number: A) 0.0132 B) 0.0092 C) ½ D) $\frac{1}{10}$ Answer: _____	
6.	A mobile costs four times as much as a calculator. Deborah buys a calculator costing €21.50. How much does a mobile cost? Answer: €_____	
7.	Work out $-1234 - 66 + 100 =$ _____	
8.	Work out 20% of 150. Answer: _____	

9.	Write down the area of the following parallelogram: 8 cm ⟵ 9 cm ⟶ Answer: _____ cm^2	
10.	8 cm An estimation of the circumference of a circle of **diameter** 8 cm is A) 14 cm^2 B) 52 cm^2 C) 25 cm^2 D) 10 cm^2 Answer: _____	
11.	A book costs €43.75. What change will I get if I pay with a €50 note? Answer: €_____	
12.	Find the size of *x*: 50° *x* 70° Answer: _____ °	
13.	Write down the output of this number machine in the empty box. Input Output 32.4 → ÷ 4 → × 2 →	
14.	If $y = 5x + 2z$, find *y* when $x = 3$ and $z = -2$. $y =$ _____	

| 15. | I have 6 gold and 3 silver rings in my pocket. I pick one at random. What is the probability that I pick a gold ring?

Answer: _____ | |

| 16. | The turtle starts from the position shown.
Sketch the figure drawn by the turtle for
this set of LOGO commands:

PD RT 45 FD 100 RT 90 FD 100 LT 90 FD 100 | |

| 17. | The perimeter of the quadrilateral is 75 cm. What is the value of x?

25 cm
15 cm
x

Answer: _____ cm   15 cm | |

| 18. | Simplify:

$5p - 2q - 2p + 3q + 1 =$ _____ | |

19.	The table below shows the amount of rainfall in centimetres: |	May	June	July	August
	5	3	2	4 | Complete the bar graph.	 May June July August

| 20. |
A
H
M
P — — — — — — — — Q
G
N
B | One of the following lines is a line of symmetry. Which one is it?

A) AB
B) MN
C) PQ
D) GH

Answer: _____ |

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FORM 4		MATHEMATICS - SCHEME C									TIME: 1h 40min						

Main Paper

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	Total Main	Non Calc	**Global Mark**
Mark																		

Name: _____ **Class:** _____

> **CALCULATORS ARE ALLOWED BUT ALL NECESSARY WORKING MUST BE SHOWN.**
> **ANSWER ALL QUESTIONS.**

1. (a) Work out the following correct to two decimal places:

    $375.586 - 227.281$

    Answer: _____

    (b) Work out the following correct to the nearest 100:

    $8254 + 1791$

    Answer: _____

    (4 marks)

_____

2. (a) Simplify the ratios

    (i) 8 **:** 28 **:** 4   Answer: _____

    (ii) 30 **:** 45   Answer: _____

    (b) €180 is shared in the ratio 1 **:** 2. Find the largest share.

    Answer: €_____

    (4 marks)

3. Given that $p = 3q^2 - r^2$

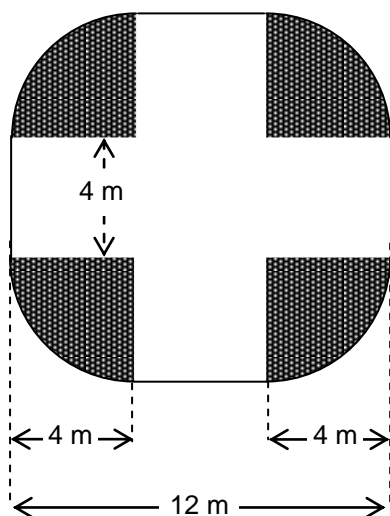(a) Calculate the value of p when $q = 2$, $r = -1$.

Answer: _____

(b) Calculate the value of p when $q = -2$, $r = 3$.

Answer: _____

(4 marks)

4. Each one of the shaded parts is a quarter of a circle.

↑
4 m
↓

←4 m→   ←4 m→

←——— 12 m ———→

(a) Work the perimeter of **one** shaded part correct to two decimal places. $(C = 2\pi r)$

Answer: _____m

(b) Work out the area of the white cross.

Answer: _____m^2

(6 marks)

5.

D   C
                8.17 cm
A   E   B
    ←4.4 cm→
←——14.4 cm——→
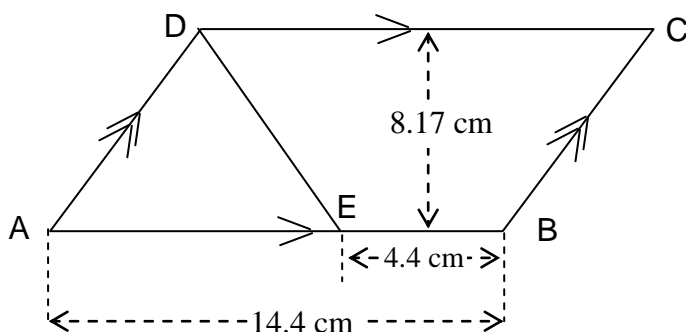
(a) Work out the area of the parallelogram ABCD correct to two decimal places.

Answer: _____ cm^2

(b) Work out the area of the triangle ADE correct to two decimal places.
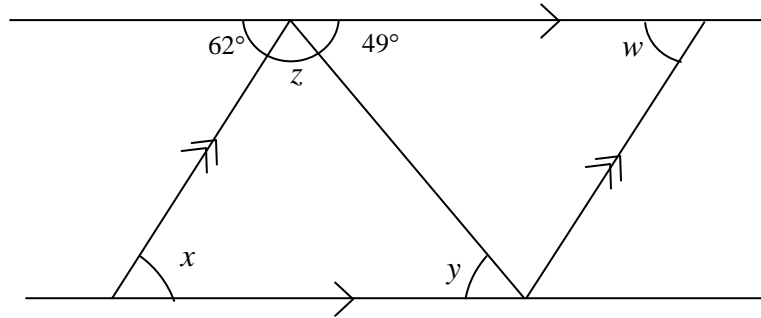
Answer: _____ cm^2

(5 marks)

Name: _____   Class: _____

6.   Calculate the value of angles *w*, *x*, *y* and *z*.

w = _____°   x = _____°

y = _____°   z = _____°

(5 marks)

_____

7.   (a)   A motor boat costs €8500 **without** VAT. The VAT rate is 18%. Find the VAT
              payable on the boat.

                                                    Answer: €_____

      (b)   Fill in:

%	Fraction	Decimal
	$\dfrac{3}{5}$	

      (c)   I buy a car costing €7500. I pay equal sums each month for a year. How much
              do I pay each month?

                                                    Answer: €_____

                                                    (6 marks)

8. (a) Work out $\frac{2}{3}$ of 33.63 m. (Give your answer in centimetres.)

Answer: _____ cm

(b) Change 6703 g into kilograms.

Answer: _____ kg

(4 marks)

_____

9. Theo works in an office. He is paid at the rate of €10.50 an hour on weekdays and €15.50 an hour on Saturdays. He normally works for 42 hours on weekdays only.

(a) How much does he earn in a normal week?

Answer: _____

(b) If he works a normal week and 4 hours on Saturday, how much will he earn?

Answer: _____

(4 marks)

_____

10. Solve the equations:

(a) $5x - 6 = 2x$

Answer: $x = $ _____

(b) $2x - 3 = 3x - 8$

Answer: $x = $ _____

(6 marks)

11. (a) Work out the area of triangle ABD.

Answer: _____ cm^2

A ⟵----- 14 cm --

10 cm

(b) The area of triangle BCD is half that of triangle ABD.
Tick the right value of x:

D ⟵- x cm -⟶ C

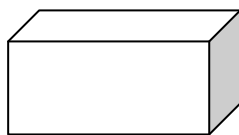3 cm   7 cm   10 cm   2 cm

☐   ☐   ☐   ☐
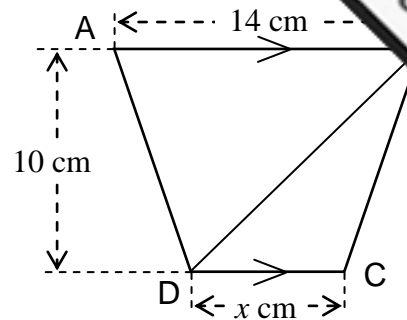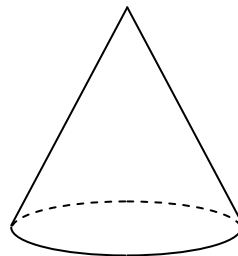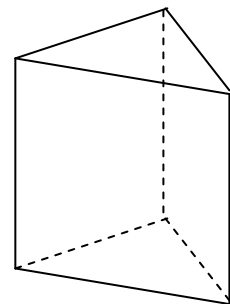
(c) AD = BC = 10.59 cm. Work out the perimeter of the shape ABCD correct to one decimal place.

Answer: _____ cm

(5 marks)

_____

12. (a) Which of the shapes shown below are prisms?
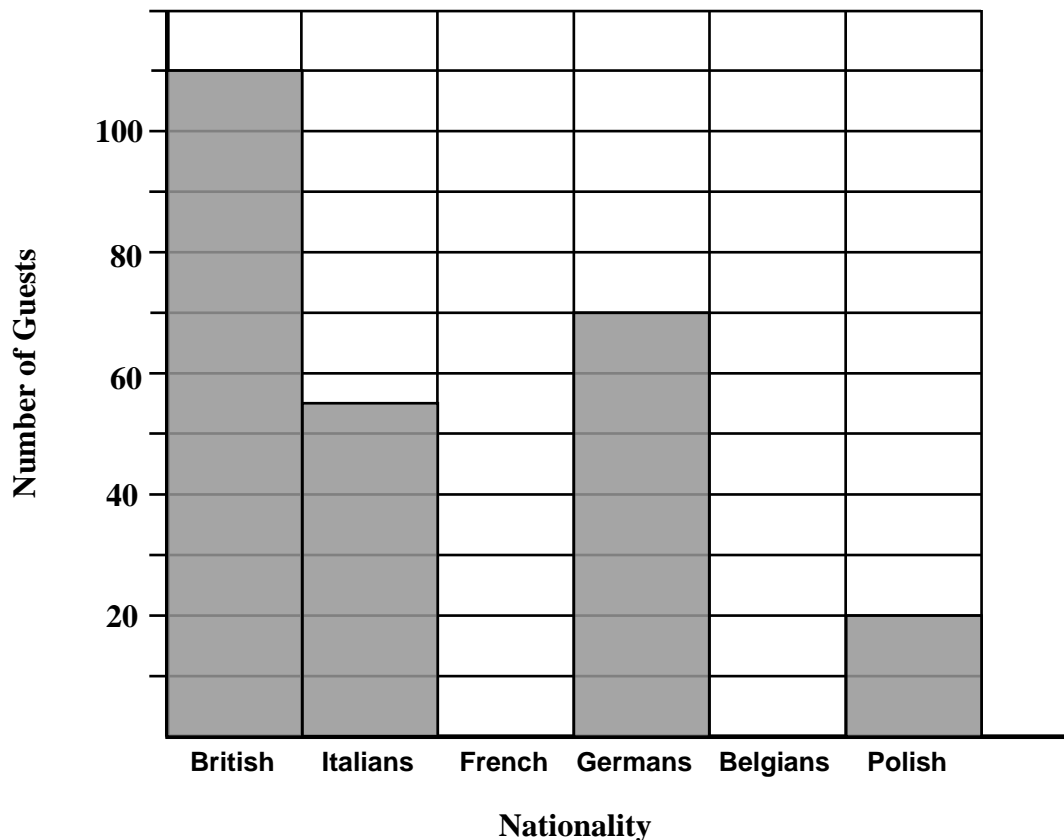Tick the correct answers in the boxes provided.
.

☐   ☐   ☐   ☐

(b) Write down the first four square numbers on the lines provided.

____   ____   ____   ____

(4 marks)

13. The manager of a hotel has collected the following data on the nation... guests in his hotel:

Nationality	British	Italians	French	Germans	Belgians	Polish
Number of Guests	110	55	45	70	30	20

(a) Use the table to complete the bar chart.

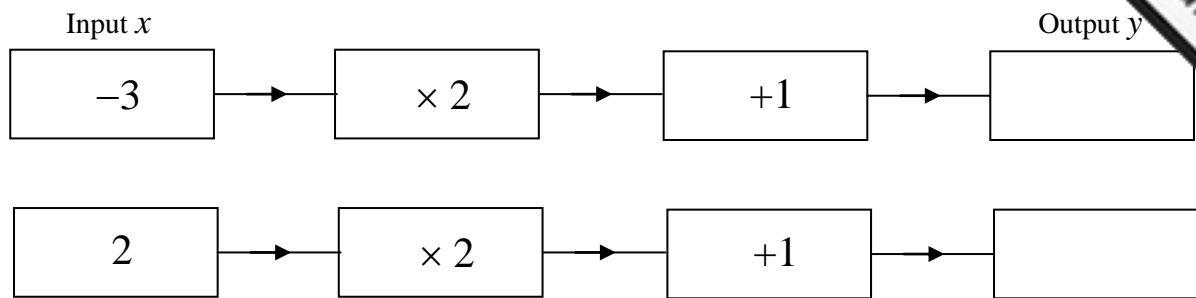(b) What is the total number of guests in the hotel?

Answer: _____

(c) A guest is chosen at random. What is the probability that the guest is British?
Express this probability in its simplest form.

Answer: _____

(d) What is the ratio of Italians to Germans?   _____ : _____
Express the ratio in its simplest form.

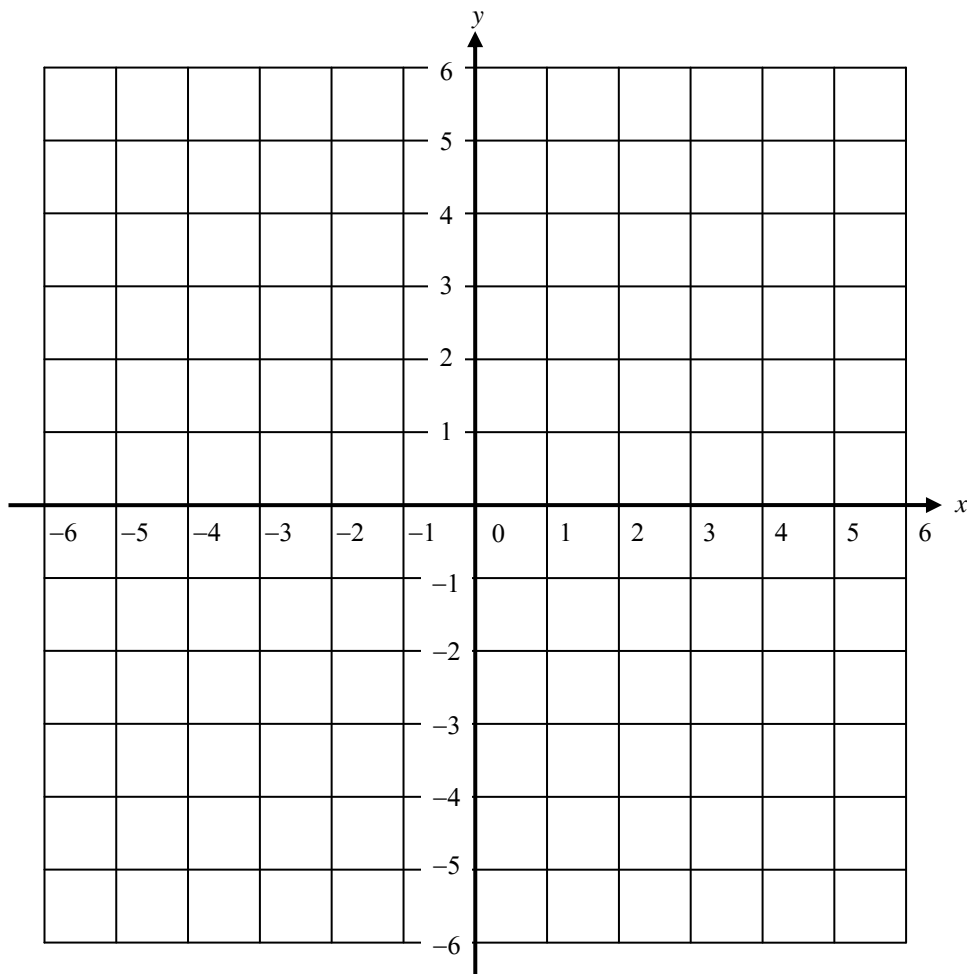(8 marks)

14. (a) Complete the following number machines.

Input x

-3	→	$\times\ 2$	→	$+1$	→	

Output y

2	→	$\times\ 2$	→	$+1$	→	

(b) Use your results in part (a) to complete the following pairs of coordinates:

$(-3,\ \underline{\quad})$, $(2,\ \underline{\quad})$.
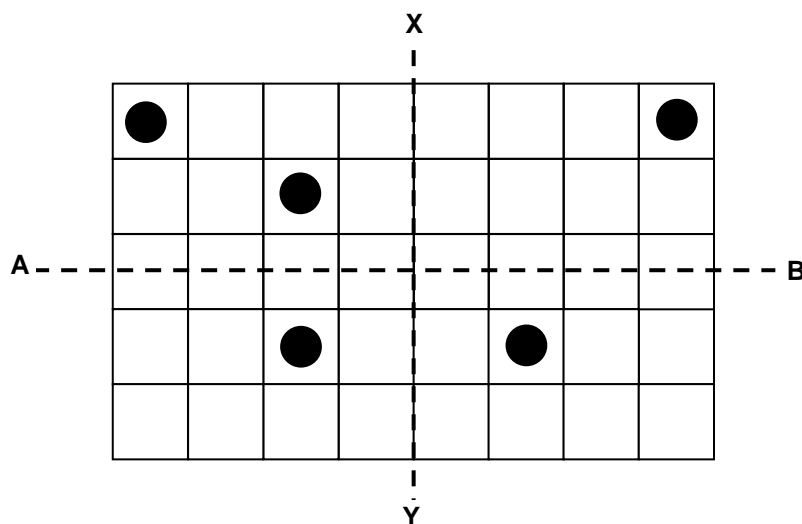
(c) Draw the line passing through these two points.

(d) Use your graph to complete the following pairs of coordinates:

$(-2,\ \underline{\quad})$, $(1,\ \underline{\quad})$

(8 marks)

15.

X

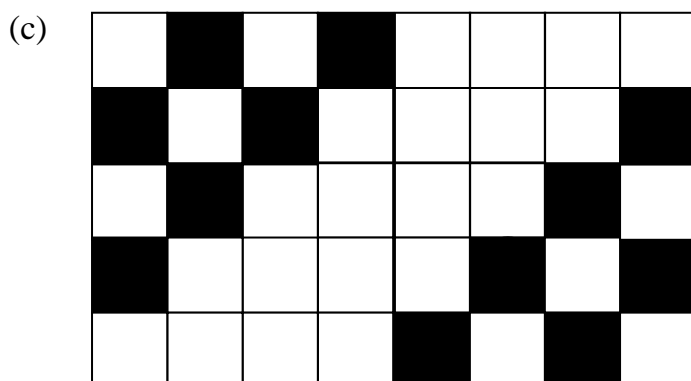A - B

Y

The diagram shows the tiles on the floor of a yard.

(a) Make the pattern symmetrical about the lines AB and XY by marking
     three tiles with a black circle.

(b) Is there another line of symmetry?
     Write YES or NO.

                                                    Answer: _____

(c)

     A stone falls at random on the floor shown. What is the probability that it will
     land on a black tile?

                                                    Answer: _____

                                                              (7 marks)

_____

End of Paper