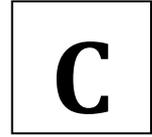


KULLEĠĠ SAN BENEDITTU
Boys Secondary School, Kirkop



HALF-YEARLY EXAMINATIONS – FEBRUARY 2012

FORM 4

MATHEMATICS Scheme C

TIME: 20 mins

Non Calculator Paper

Question	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	Total	
Mark																						

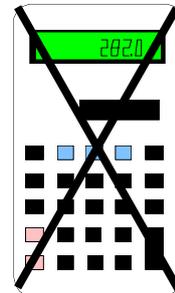
DO NOT WRITE ABOVE THIS LINE

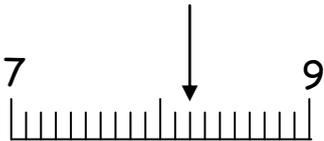
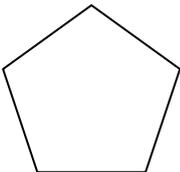
NAME AND SURNAME: _____ **CLASS:** _____

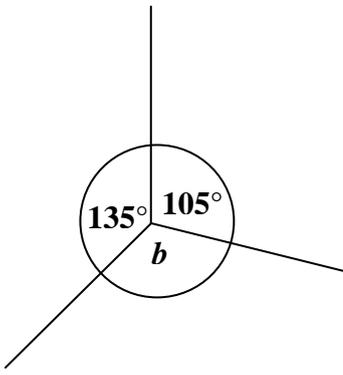
INSTRUCTIONS TO CANDIDATES:

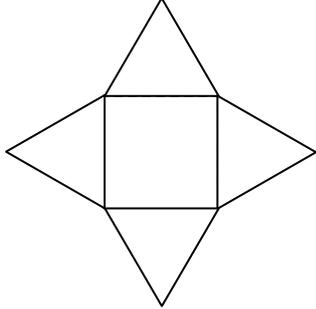
Read all the questions carefully before you start answering.

- Answer all questions.
- This paper carries 20 marks.
- **Calculators, protractors** and other mathematical instruments are **NOT ALLOWED**.
- On your desk you should have nothing except for **pen, pencil, ruler** and the **examination paper**.
- You are not required to show your working. However, space for working is provided if you need it.



No	QUESTION	SPACE FOR WORKING (IF REQUIRED)
1	Work out: $(56 - 7) \times 10$ <div style="text-align: right;">Ans _____</div>	
2	Write 45.5493 correct to 2 decimal places (d.p.) <div style="text-align: right;">Ans _____</div>	
3	A rough estimate of 293×49 is: a) 12000 b) 1500 c) 8000 d) 15000 <div style="text-align: right;">Ans _____</div>	
4	Write down the number the arrow is pointing to. <div style="text-align: center;">  </div> <div style="text-align: right;">Ans _____</div>	
5	Write 0.35km in metres . <div style="text-align: right;">Ans _____</div>	
6	Work out $560 \div 100$ <div style="text-align: right;">Ans _____</div>	
7	This is a regular pentagon. How many lines of symmetry does it have? <div style="text-align: center;">  </div> <div style="text-align: right;">Ans _____</div>	

8	<p>Write down a square number between 60 and 70.</p> <p style="text-align: right;">Ans _____</p>						
9	<p>Change 75% as a fraction in its lowest terms.</p> <p style="text-align: right;">Ans _____</p>						
10	<p>Work out the value of $17 - (-8)$</p> <p style="text-align: right;">Ans _____</p>						
11	<p>Calculate the size of angle <i>b</i></p> <div style="text-align: center;">  </div> <p style="text-align: right;">Ans _____</p>						
12	<p>A teacher measures the height of five students. Find the range if the results are:</p> <table border="1" style="margin-left: auto; margin-right: auto;"> <tr> <td style="padding: 5px;">150cm</td> <td style="padding: 5px;">160cm</td> <td style="padding: 5px;">145cm</td> <td style="padding: 5px;">150cm</td> <td style="padding: 5px;">155cm</td> </tr> </table> <p style="text-align: right;">Ans _____</p>	150cm	160cm	145cm	150cm	155cm	
150cm	160cm	145cm	150cm	155cm			
13	<p>Which of the following numbers is a cube?</p> <p style="text-align: center;">a) 25 b) 27 c) 50 d) 100</p> <p style="text-align: right;">Ans _____</p>						

14	<p>This is the net of a:</p> <ul style="list-style-type: none">a) triangular prismb) square based pyramidc) rectangular based pyramidd) cuboid		
15	<p>The temperature at 7pm in a winter night in London was 3°C. By midnight it dropped by 5°C. What was the temperature at midnight?</p>	<p style="text-align: right;">Ans _____</p>	
16	<p>Find the value of $5a - 9$ when $a = 4$</p>	<p style="text-align: right;">Ans _____</p>	
17	<p>Write a number that is</p> <ul style="list-style-type: none">• a prime number• an odd number• a factor of 28	<p style="text-align: right;">Ans _____</p>	
18	<p>How many 20c coins make €2?</p>	<p style="text-align: right;">Ans _____</p>	
19	<p>The weight of a man is about:</p> <p>a) 0.72 kg b) 75000 g c) 7.5 kg d) 7200 g</p>	<p style="text-align: right;">Ans _____</p>	
20	<p>Find the value of 50% of €250</p>	<p style="text-align: right;">Ans _____</p>	

2. a) Write these numbers in order, **largest first**.

0.23 2.03 3.003 0.3 3.02 0.32

b) Tick next to the numbers that lie between **1.5** and **2.05**

1.45 **1.05** **1.78** **2.5** **2.01** **2.10**

(5 marks)

3. a) Write each number correct to **1 significant figure**:

i) 21.3 _____ ii) 78.2 _____ iii) 12.01 _____

b) Now give a **rough estimate** of: $\frac{21.3 \times 78.2}{12.01}$

c) Use your calculator to work out the value of $\frac{21.3 \times 78.2}{12.01}$
Give your answer correct to **1 d.p.**

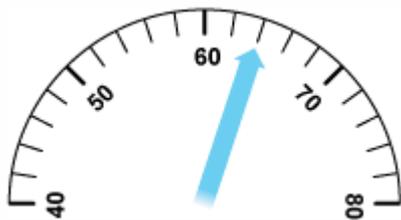
(7 marks)

4. a) Change the following **quantities** :

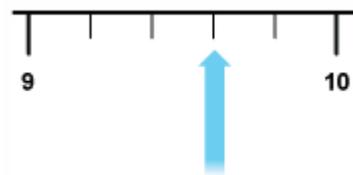
i) 3.6 kg = _____ g

ii) 7000 cm = _____ m

b) What is the reading on the following scales?



i) _____



ii) _____

(4 marks)

5. a) Give the value of:

i) 3.8×10^3 _____

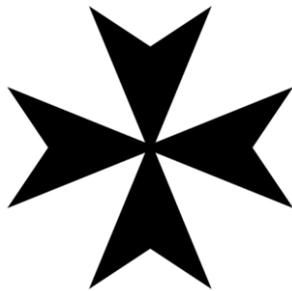
ii) $52.6 \div 10^2$ _____

b) Work out the value of y when $y \times 10^2 = 240$

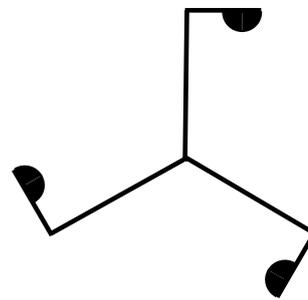
$y =$ _____

(4 marks)

6. a) Write down the order of **rotational symmetry** for the figures below:

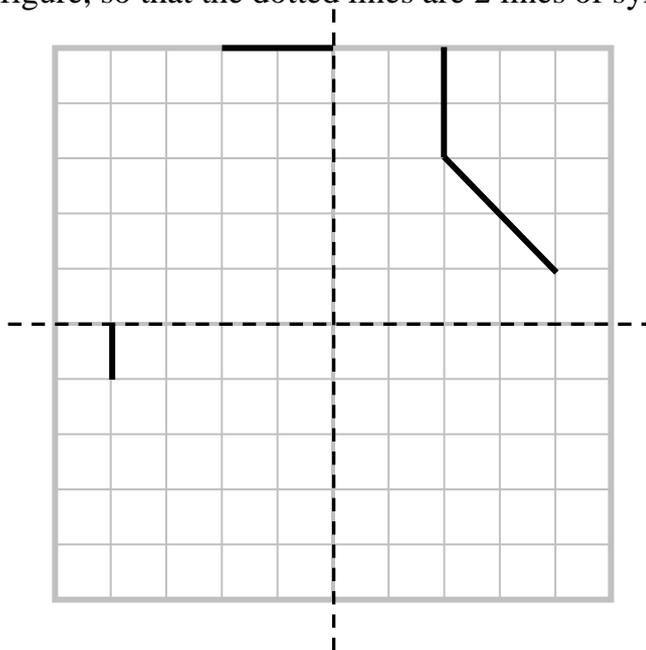


i) Order = _____



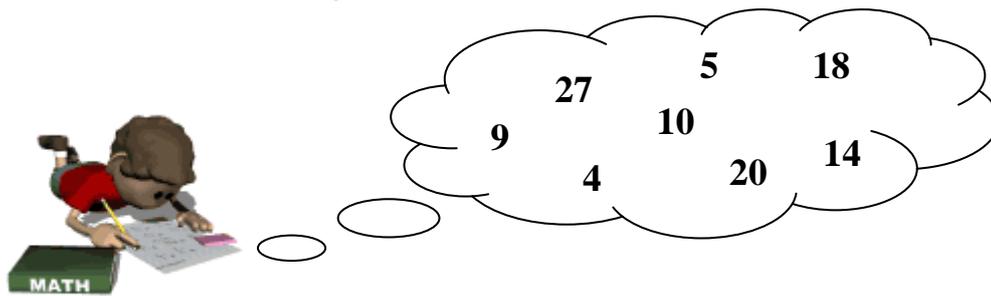
ii) Order = _____

b) Complete the figure, so that the dotted lines are 2 lines of symmetry.



(6 marks)

7. Use the numbers in the diagram to choose:



- A **prime** number
- A **multiple** of 7
- A **square** number
- The **square root** of 100
- A **common multiple** of 3 and 6
- A **common factor** of 12 and 24

(6 marks)

8. During a biology fieldwork, a student measured the length, in centimetres, of 10 earthworms. Here are the results.

10.2	12.3	15.0	18.7	12.3
13.4	12.3	12.9	12.3	15.0

a) What is the **range** of these measurements?

_____ cm

b) Work out the **mean** length of these earthworms.
Give your answer to **1 d. p.**



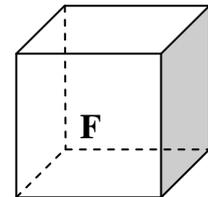
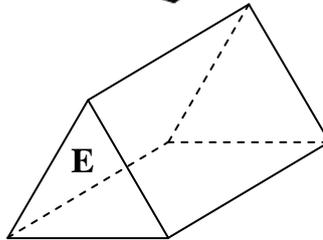
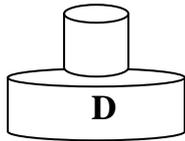
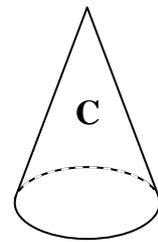
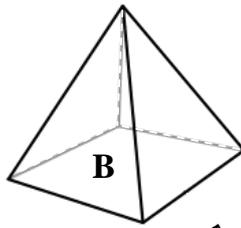
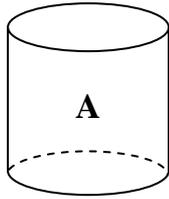
_____ cm

c) What is the **mode** of these lengths?

_____ cm

(6 marks)

9. Here are some solid shapes:



Fill in:

a) Shapes _____, _____, and _____ are **prisms**.

b) Shapes _____ and _____ are **pyramids**.

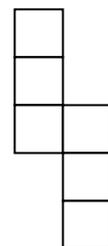
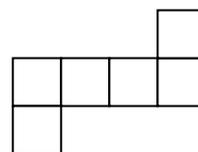
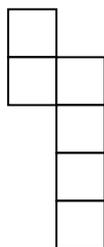
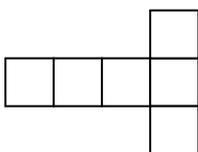
c) **Shape B** is called a _____ based _____.

It has ___ faces and ___ vertices.

d) **Shape E** is called a _____.

It has ___ faces and ___ vertices.

e) Which of the following is **NOT** the net of **shape F**?



(8 marks)

10. The following data shows the ages of the people who visited a fitness centre on a particular Saturday:

26 30 55 32 28 26 60 19 17 28
 25 31 43 42 18 45 30 23 56 50
 35 22 20 18 57 36 19 40 62 65

a) Use the information to complete the frequency table:

Age (in years)	Tally	Frequency
0 – 19		
20 – 39		
40 – 59		
60 – 79		



b) How many persons were **younger than 40 years**?

_____ persons

c) How many persons were **older than 40 years**?

_____ persons

d) What was the **total number of persons** who visited the fitness centre?

_____ persons

e) **Most** people were from _____ to _____ years old.

(8 marks)

11. a) Change 0.2 to a percentage. _____

b) Change $\frac{2}{5}$ to a percentage. _____

c) On a particular day, 65% of the candidates **passed** their driving license test.

i) What percentage of the candidates **failed** this test? _____



There were 20 candidates who sat for the test.

ii) How many candidates **passed** the test? _____

iii) How many candidates **failed** their test? _____

(8 marks)

12. Kevin uses this rule to change temperature from °C into °F.

**Multiply the temperature in °C by 2
and add 30 to the answer**



a) Use this rule to change:

(i) 22°C into °F

(ii) -5°C into °F

_____ °F

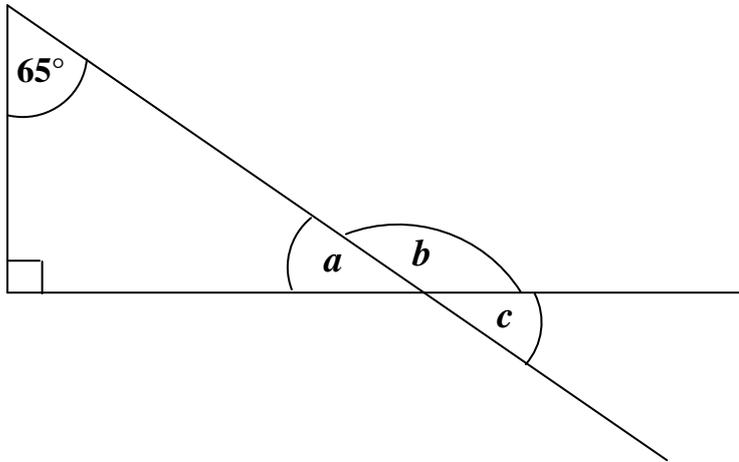
_____ °F

b) If **F** represents the temperature in °F and **C** represents the temperature in °C, complete the formula for the above rule.

$$\mathbf{F} = \underline{\quad} \mathbf{C} + \underline{\quad}$$

(6 marks)

13. a) Work out the size of angles a , b and c .

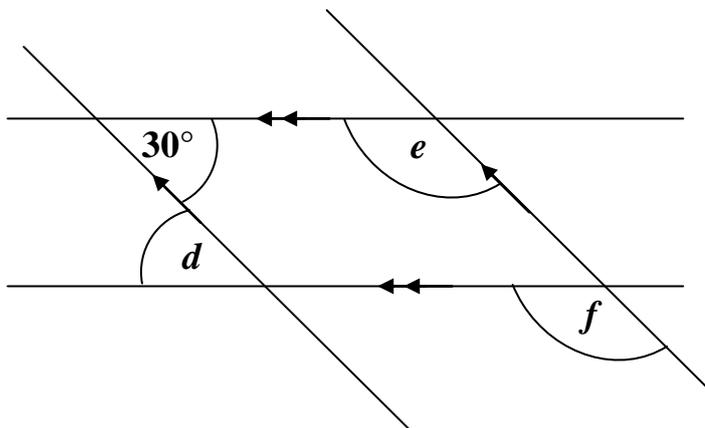


$a =$ _____^o

$b =$ _____^o

$c =$ _____^o

b) Work out the size of angles d , e and f .



$d =$ _____^o

$e =$ _____^o

$f =$ _____^o

c) Underline the correct answer:

i) Angles a and c are (corresponding, alternate, vertically opposite) angles.

ii) Angles e and f are (corresponding, alternate, vertically opposite) angles.

(8 marks)