GCSE Mathematics

Unit 2: Calculator Allowed

Intermediate Tier

County Revision Paper 2a

tinyurl.com/LARevP2a

Week beginning 27th March 2017

55 Minutes

School: _____

Student Name: _____

Question	Maximum Mark	Mark Awarded
1	4	
3	5	
5	3	
7	2	
9	6	
11	8	
13	4	
15	4	
17	4	

1. (a)   Find the highest common factor of 36 and 54   [1]

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(b) Use these clues to find the missing number   [3]

- This number is the product of 3 prime numbers
- 10 is a factor of this number
- 210 is a multiple of this number
- This number is greater than 30

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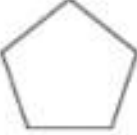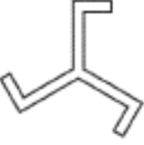
3.

In a game, Carwyn is asked to select pairs of shapes from the cards given below.

Shape A	Shape B	Shape C	Shape D	Shape E
Shape F	Shape G	Shape H	Shape I	Shape J
Shape K	Shape L	Shape M	Shape N	Shape P

He must select his shapes using given conditions.   [5]

Condition 1: Select a pair of shapes that have rotational symmetry of order 3.

Shape .... and   Shape ....

Condition 2: Select a pair of shapes that have exactly 4 lines of symmetry.

Shape .... and   Shape ....

Condition 3: Select a pair of shapes that are congruent.

Shape .... and   Shape ....

Condition 4: Select a pair of shapes that are similar but not congruent.

Shape .... and   Shape ....

Condition 5: Select a pair of shapes that do not have rotational symmetry.

Shape .... and   Shape ....

5.

(a) Before 2010, the lowest temperature ever recorded on Earth was −89.2°C. In August 2010, a new record low temperature of −93.2°C was recorded. What is the difference between these temperatures? [1]

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(b) On July 2 1936, a temperature of 46°C was recorded in Minnesota, USA. On February 2 1996, a temperature of −51°C was recorded in Minnesota. What is the difference between these temperatures? [1]

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(c) What temperature is mid-way between −12°C and 16°C? [1]

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7. Show clearly whether the following statement is true or false. [2]

'Multiplying any number by 10 is easy, you just add a zero to the original number'

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9.

In this question, you will be assessed on the quality of your organisation, communication and accuracy in writing.

A square has a perimeter of 60 cm
A circle fits exactly inside the square, as shown in the diagram.

Calculate the **area** of the circle.
Give your answer correct to 1 decimal place.
You must show your working.

[4 + 2 OCW]

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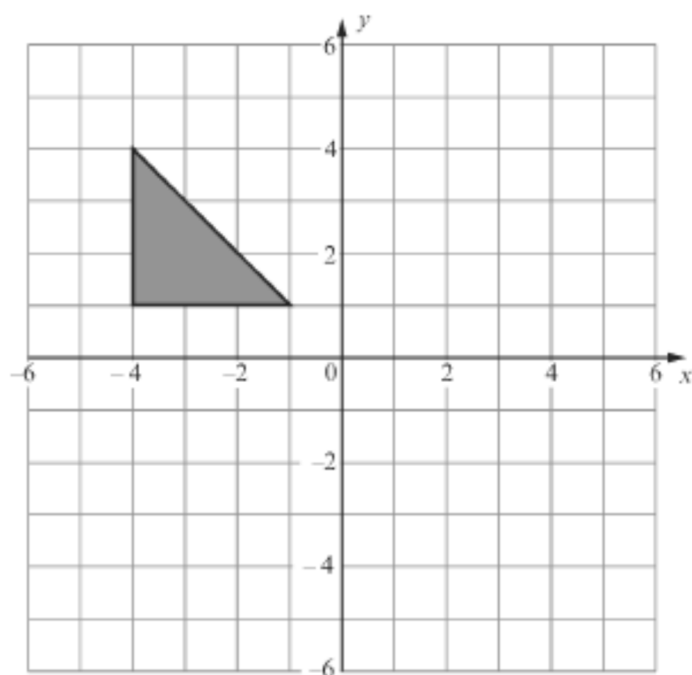
11. (a) Enlarge the shape shown on the grid by a scale factor of 2 using A as the centre of the enlargement.
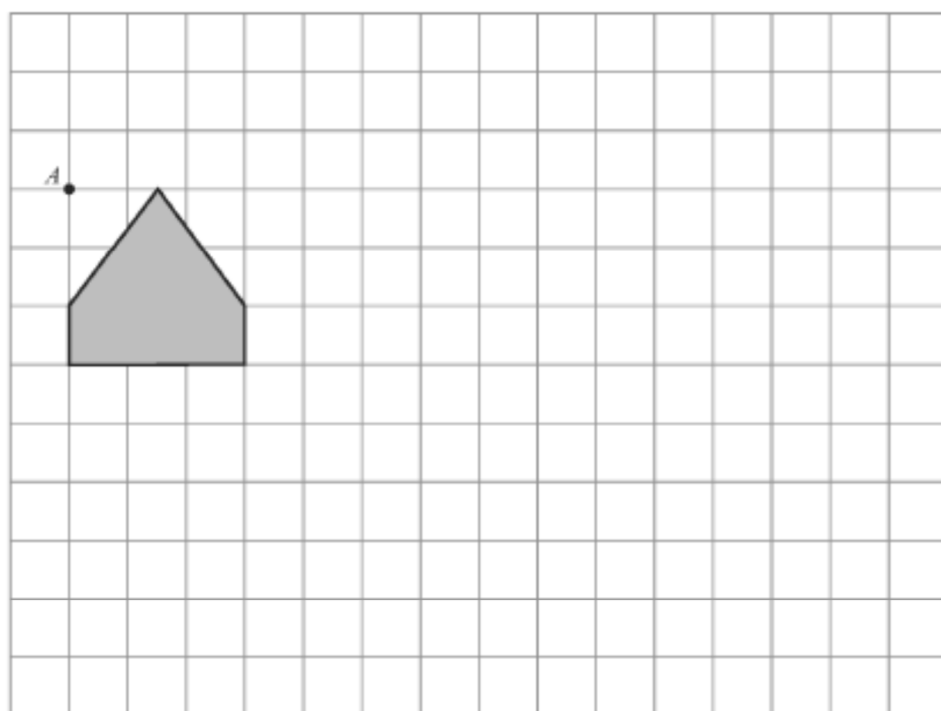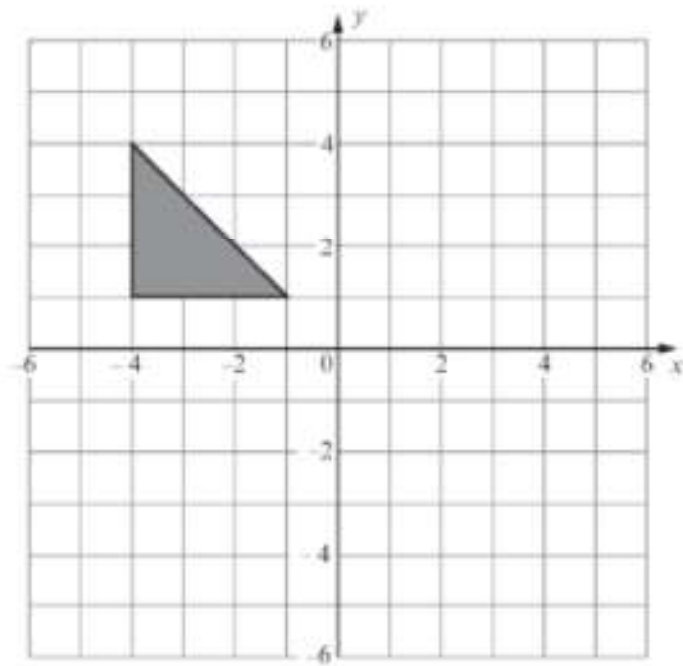

[3]

(b) Reflect the triangle in the line $y = x$.

[2]

(c)   Translate the triangle shown below by $\begin{pmatrix} 5 \\ -3 \end{pmatrix}$.

[1]

(d)   Rotate the triangle shown on the grid below through 90° anticlockwise about (2, 1).

[2]

13.   A solution to the equation

$$x^3 + 2x - 25 = 0$$

lies between 2 and 3.

Use the method of trial and improvement to find this solution correct to 1 decimal place. You must show all your working.   [4]

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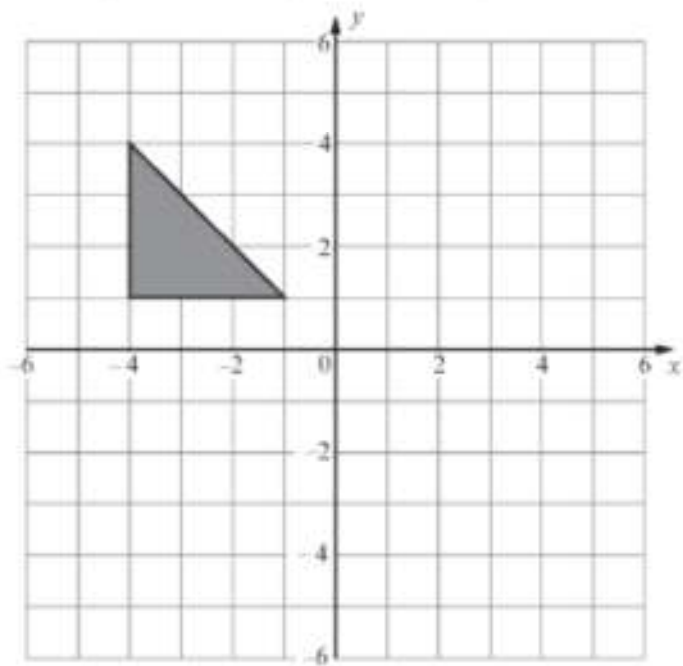
15.   (a)   (i)   Use the graph paper below to draw the graph of $3x + 2y = 12$.

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[3]
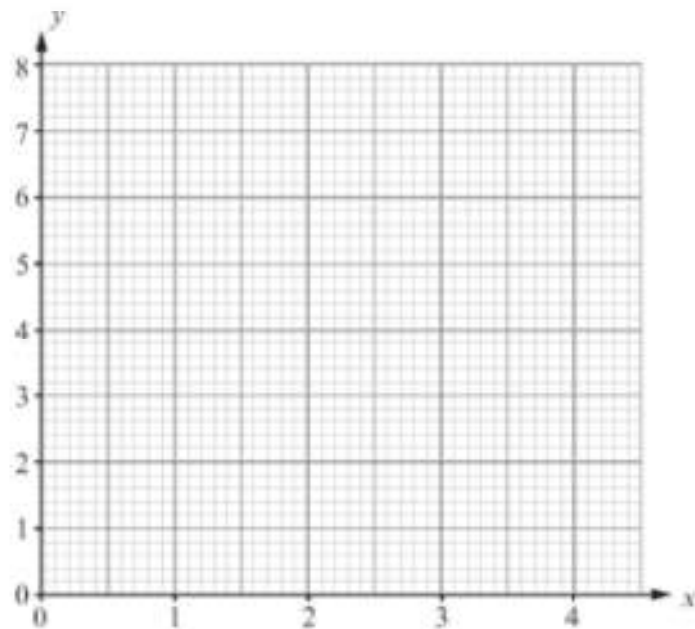
(ii)   Write down the gradient of $3x + 2y = 12$.

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[1]

17.   From the top of a vertical cliff, the angle of depression of a sailing boat is 15°.
      If the sailing boat is 700 m from the base of the cliff, calculate the height of the cliff above sea
      level.   [4]

Cliff

Sea level

700 m

Boat

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