GCSE Mathematics

Unit 2: Calculator Allowed

Intermediate Tier

County Revision Paper 1a

Week beginning 27th February 2017

55 Minutes

School: _____

Student Name: _____

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

tinyurl.com/LARevP1a

1. Using only the numbers in the following list

   26   27   28   29   30   31   32   33   34   35

   Write down

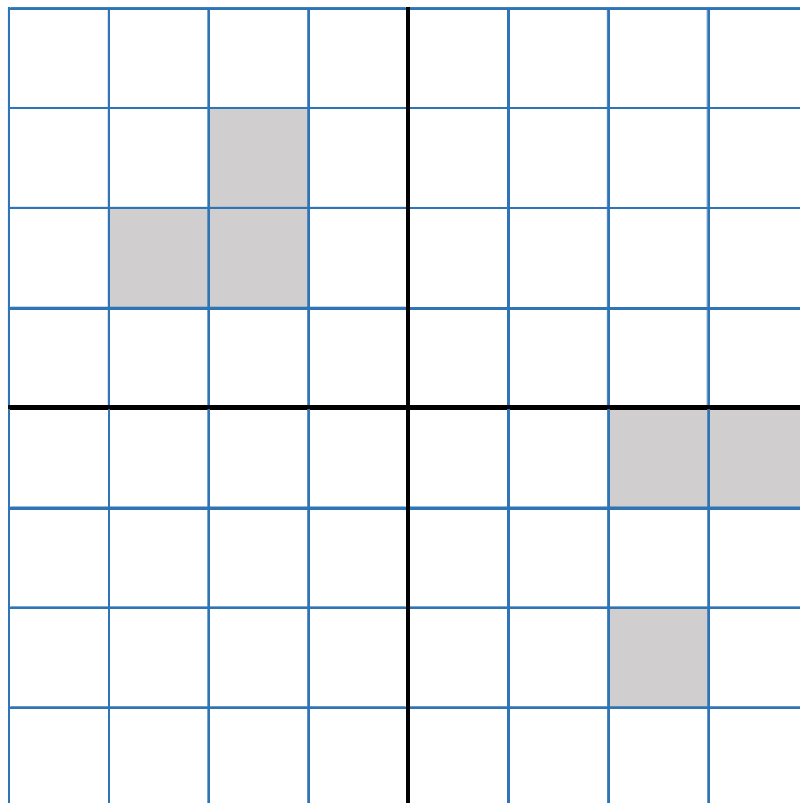   (a) A prime number   [1]

   ....

   (b) A cube number   [1]

   ....

   (c) A factor of 186   [1]

   ....

   (d) A multiple of 8.75   [1]

   ....

3. Shade the least number of squares in the empty two quadrants so that the grid has
   rotational symmetry of order 2.   [3]

5.

The mid-day temperature at the summit of Snowdon was recorded over a seven-day period.

The recorded temperatures for five of those days are shown in the table below.

Tuesday was 2°C warmer than Monday.

Saturday was 6°C colder than Friday.

(a) Complete the table for Tuesday and for Saturday.

Day	Mon	Tue	Wed	Thu	Fri	Sat	Sun
Temperature	−4°C		0°C	2°C	1°C		−3°C

[2]

(b) What was the range of the recorded temperatures over the seven days?

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[1]

7. Show clearly whether the following statement is true or false. [4]

'When you multiply two numbers together, you always end up with a number that is bigger than the ones you started with'

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9.

The diagram shows a square and a circle.
The diagonal of the square is equal to the diameter of the circle.

4·2 cm

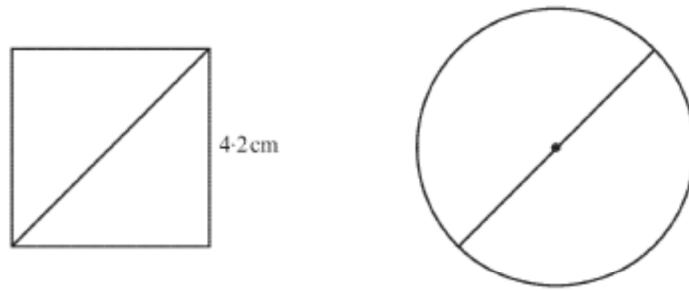*Diagram not drawn to scale*

Calculate the circumference of the circle.

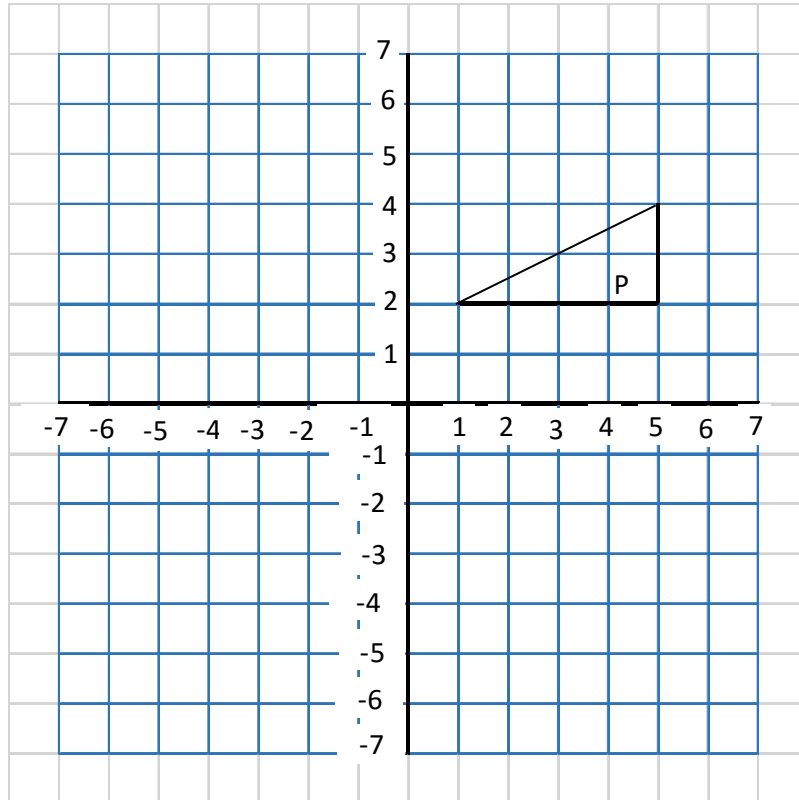..

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[6]
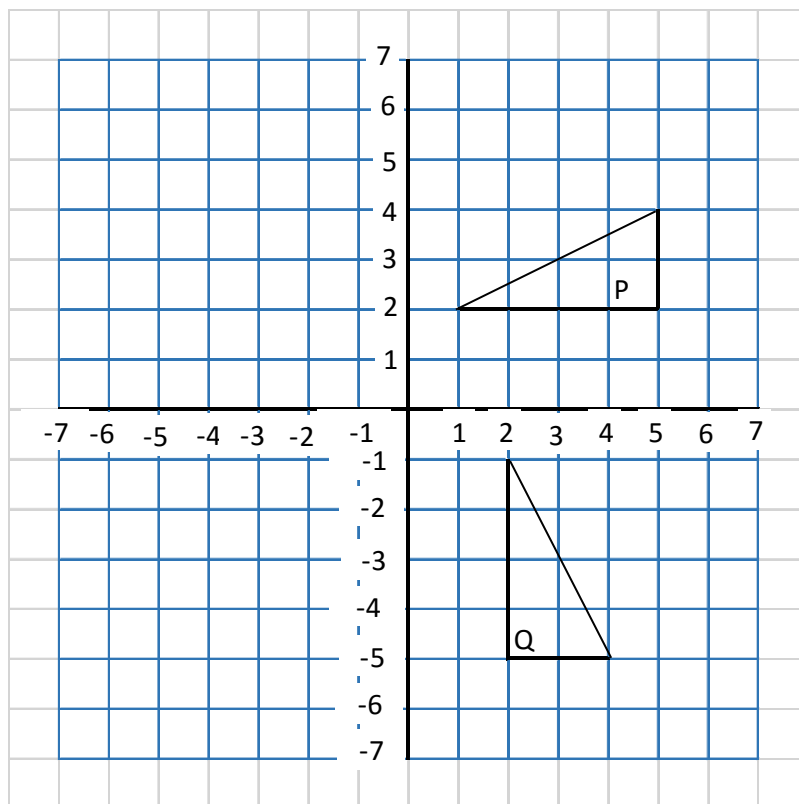
11. (a) Reflect the triangle P in the line x = -2   [2]

(b) Describe fully a single transformation that transforms triangle P onto triangle Q   [3]

(c)   (i) Translate the triangle S using the column vector $\begin{pmatrix} -4 \\ +2 \end{pmatrix}$ [1]

(d)   Write down the column vector that will reverse the translation in part (i)   [1]

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13.   A solution to the equation

$$X^3 - x - 5 = 0$$

lies between 1 and 2.

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) Use the grid below to draw graphs to represent each of the following equations.

   (i) $y = \frac{1}{2}x + 6$

   (ii) $x + y = 8$

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Label your lines (i) and (ii) as appropriate.
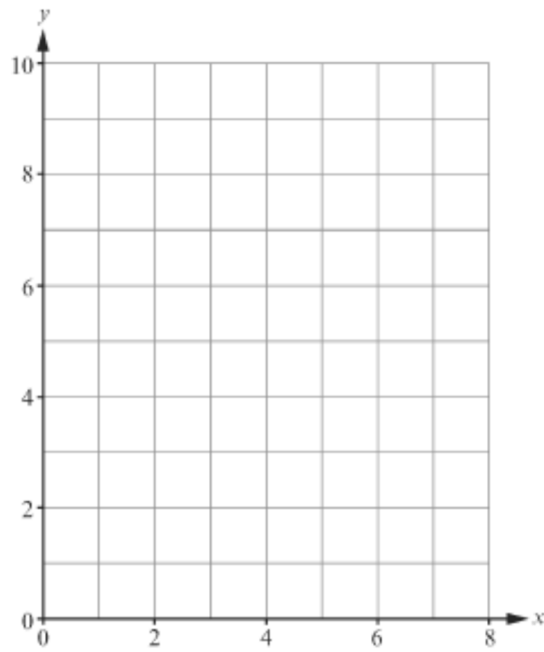
[4]

(b) Using your answer to *(a)*, are the lines $y = \frac{1}{2}x + 6$ and $x + y = 8$ perpendicular to each other?
Give a reason for your answer.

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[1]

17.

(a)
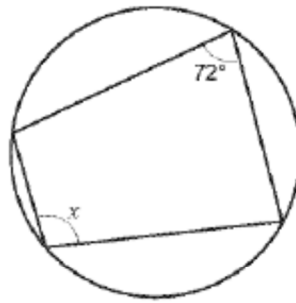
Diagram not drawn to scale

Calculate the size of the angle x in the diagram above.   [1]

$x = $ .... °

(b)   The diagram below shows a circle with centre O.
       A, B and C are points on the circumference of the circle.
       The tangent, PAH, touches the circle at A.
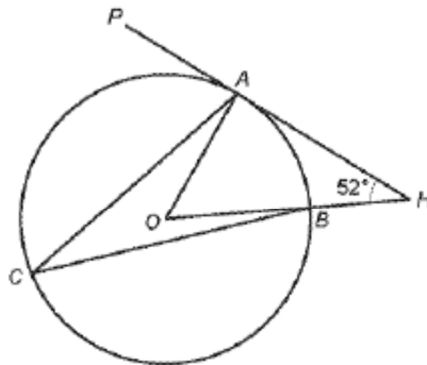 OBH is a straight line.

Diagram not drawn to scale

Given that $A\hat{H}B = 52°$, calculate $A\hat{C}B$.
You must show your working.   [3]

$A\hat{C}B = $ .... °