

Grade 6 GCSE questions - due 01/10/2020

Question 1 - ( 2 marks available )

Write the recurring decimal  $0.\dot{1}\dot{5}$  as a fraction in its simplest form.

Question 2 - ( 2 marks available )

Expand and simplify  $x(x + 2)(x + 4)$

Question 3 - ( 3 marks available )

a) The rule for continuing a sequence is

Double the previous term and add 3

A sequence starts 3 9 21 ...

Work out the next term in the sequence.

b) A different sequence follows the same rule

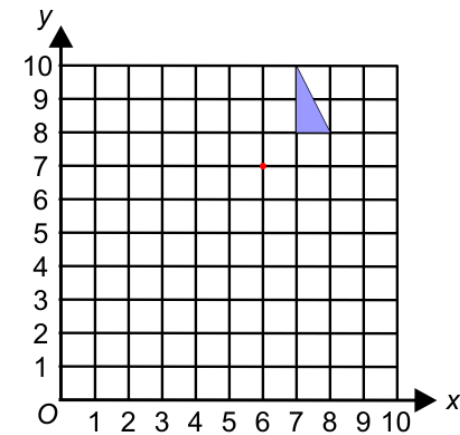
Double the previous term and add 3

The third term of the sequence is 29

Work out the **first** term.

Question 4 - ( 3 marks available )

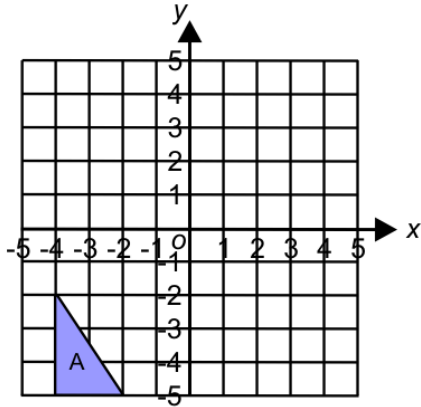
Enlarge the triangle by scale factor  $-2$  with centre of enlargement  $(6, 7)$ .



Question 5 - ( 3 marks available )

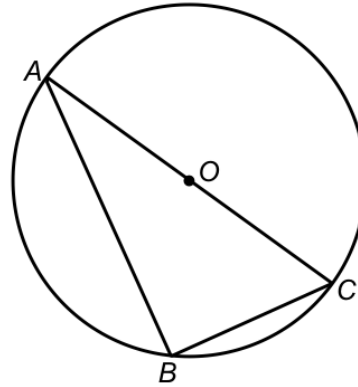
Triangle A is reflected in the  $x$ -axis to give B.  
Triangle B is reflected in the  $y$ -axis to give C.

Describe fully the single transformation that maps A onto C.



Question 6 - ( 2 marks available )

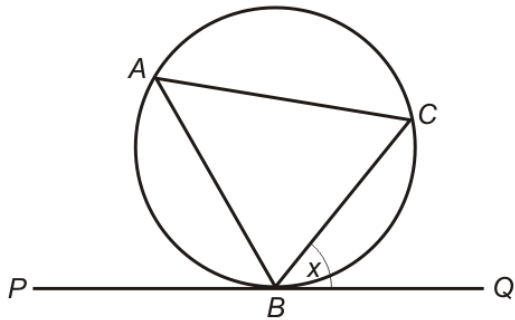
Write down the size of angle  $ABC$ .  
Give a reason for your answer.



Question 7 - ( 3 marks available )

$A$ ,  $B$  and  $C$  are points on a circle such that  $BC$  bisects angle  $ABQ$ ,  
 $PBQ$  is a tangent to the circle and angle  $CBQ = x$ .

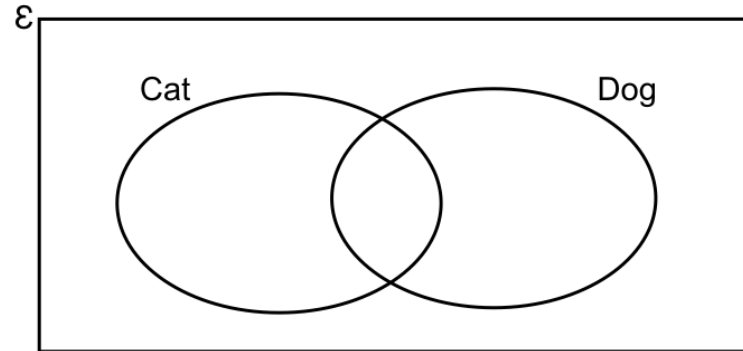
Prove that  $AC = BC$



Question 8 - ( 3 marks available )

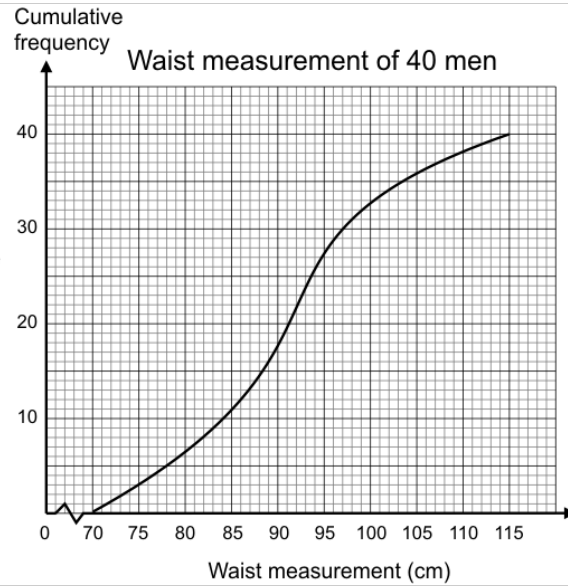
In a class of 25 students, 15 of them have a cat,  
16 of them have a dog and 3 of them have neither.

Find the probability that a student chosen at random  
has a cat and a dog.  
*You may wish to complete the Venn diagram to help you.*



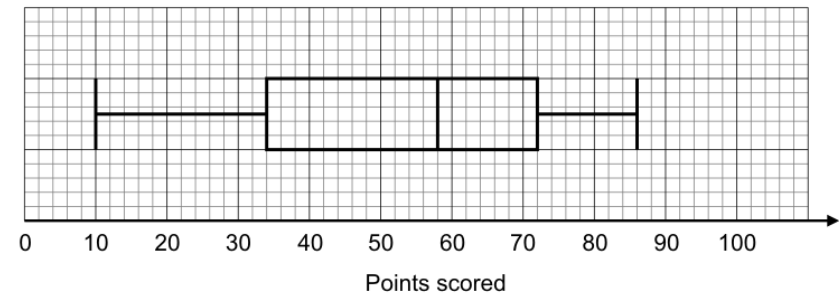
Question 9 - ( 4 marks available )

- a) How many men have a waist measurement of **more** than 85 cm?
- b) What is the median waist measurement?
- c) What is the interquartile range of the waist measurements?



Question 10 - ( 4 marks available )

This box plot shows information about the marks scored in a test.



- a) What was the median number of marks scored?
- b) What was the interquartile range of the marks?
- c) What was the range of the marks?