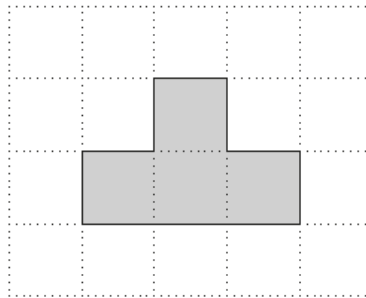


**GCSE Mathematics - Paper 3 (Foundation tier)**

**J560/03** Paper 3 Mathematics (Foundation Tier)

**Question Set 2**

1 A shape is drawn on a one-centimetre grid.



(a) Find the perimeter of the shape.

(a) ..... cm [1]

(b) How many lines of symmetry does the shape have?

(b) ..... [1]

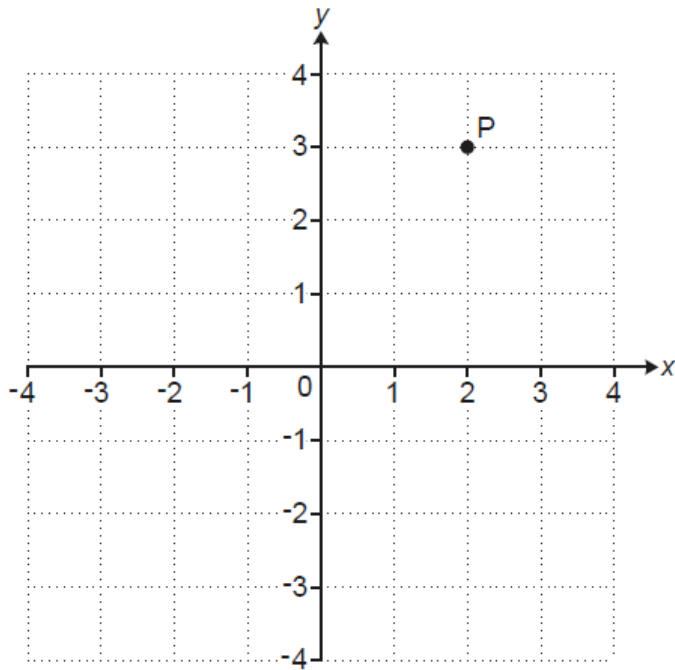
2 Insert brackets to make each of these calculations correct.

$$5 \times 3 - 1 = 10$$

$$3 + 6 - 2 \div 2 = 3.5$$

[2]

3 Point P is shown on this grid.



(a) Write down the coordinates of point P.

(a) (..... , .....) [1]

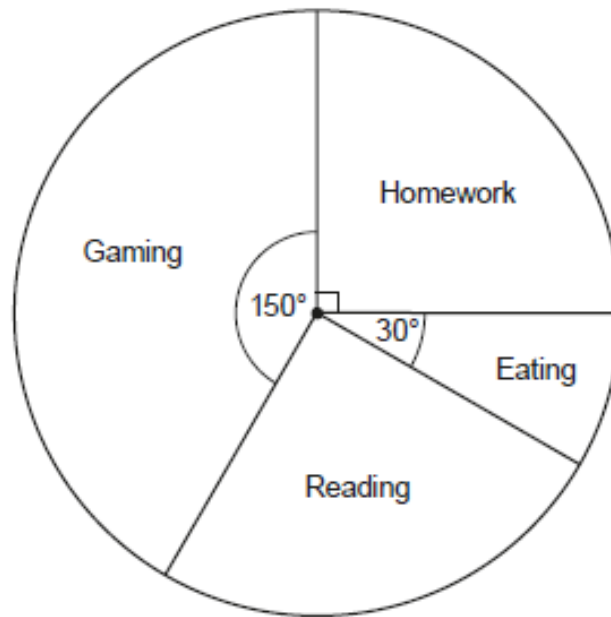
(b) Draw the line  $x = -2$  on the grid.

[1]

4 Find the value of  $3g - h$  when  $g = 4$  and  $h = 5$ .

..... [2]

- 5 The pie chart shows how Jack spent his time one evening.



- (a) On which activity did Jack spend most time?

(a) ..... [1]

- (b) Jack says

I spent  $\frac{1}{3}$  of my time on *Gaming*.

Show that he is not correct.

..... [2]

- (c) The pie chart represents 5 hours.

Find the time, in hours and minutes, that Jack spent reading.

(c) ..... h ..... min [4]

6 Solve.

$$4x + 5 = 35$$

$x = \dots\dots\dots$  [2]

7 Delroy drives 240 miles.  
His car averages 40 miles per gallon of petrol.  
Petrol costs £1.30 per litre.

1 gallon is 4.5 litres.

How much does Delroy spend on petrol for this journey?

£  $\dots\dots\dots$  [4]

8 (a) 50 sweets weigh 200g.

If each sweet weighs the same, work out the weight of 7 sweets.

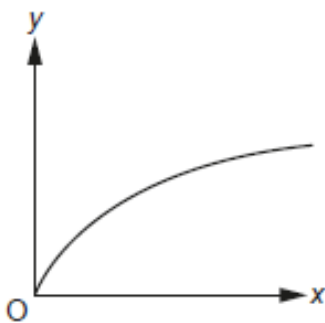
(a) ..... g [2]

(b)  $b$  is directly proportional to  $a$ .  
 $b$  is 10 when  $a$  is 8.

Work out  $b$  when  $a$  is 9.

(b)  $b =$  ..... [2]

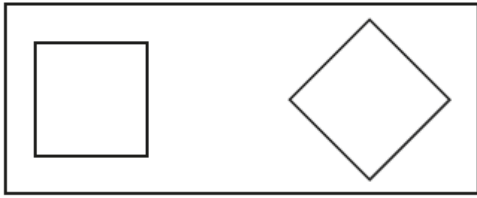
(c) A graph is drawn below.



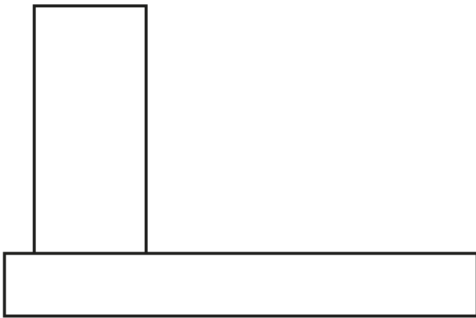
Explain how you know that  $y$  is not directly proportional to  $x$ .

.....  
..... [1]

9 This is the plan view of a 3D object.



Complete the diagram below to show the front view of the 3D object from A.



[2]

**10** A grain of salt weighs  $6.48 \times 10^{-5}$  kg on average.  
A packet contains 0.35 kg of salt.

(a) Use this information to calculate the number of grains of salt in the packet.

(a) ..... [2]

(b) Explain why your answer to part (a) is unlikely to be the actual number of grains of salt in the packet.

.....  
.....  
..... [1]



11

Sophie is organising a raffle.

- Each raffle ticket costs 50p.
- She sells 400 tickets.
- The probability that a ticket, chosen at random, wins a prize is 0.1.
- Each winning ticket receives a prize worth £3.

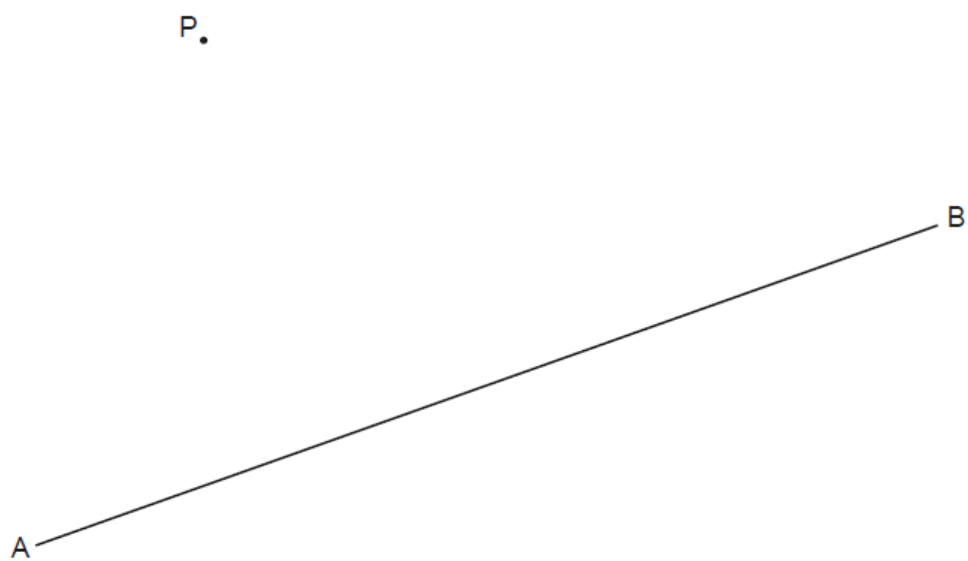
Sophie says

I expect the raffle to make over £100 profit.

Show that Sophie is wrong.

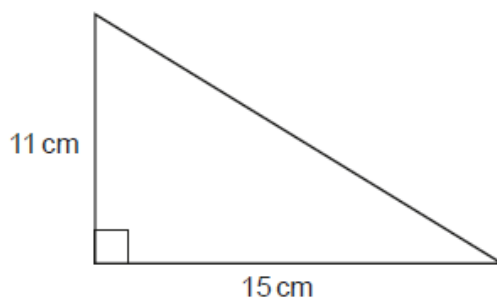
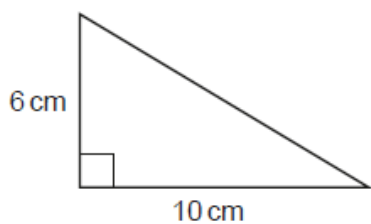
.....  
..... [4]

- 12 Construct the perpendicular from the point P to the line AB.  
Show all of your construction lines.



[2]

- 13 Are these two triangles mathematically similar?  
Show how you decide.



Not to scale

..... because .....

.....

.....

..... [3]

- 14 (a) A number,  $g$ , is given as 4.05, correct to 2 decimal places.

Complete the error interval for  $g$ .

(a) .....  $\leq g <$  ..... [2]

- (b) A number,  $h$ , is given as 3, truncated to 1 significant figure.

Complete the error interval for  $h$ .

(b)  $3 \leq h <$  ..... [1]

15

(a) Simplify.

(i)  $h^3 \times h^{-3}$

(a) (i) ..... [1]

(ii)  $\frac{r^9}{r^3}$

(ii) ..... [1]

(b) The length of each side of a plastic cube is  $2a$  millimetres.  
The cube has mass  $32a^2$  grams.

Find an expression for the density of the cube in its simplest form.  
Give the units of your answer.

(b) density = .....

units ..... [5]

**Total Marks for Question Set 2: 50**

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