GCSE (9-1) Mathematics

J560/02 Paper 2 (Foundation Tier)

Question Set 3

1. Work out.

(a) $89 + 14$

(a) ..... **[1]**

(b) 17×21

(b) ..... **[2]**

2. Complete each statement by writing the missing value in the box.

(a) $\frac{2}{5} = \frac{4}{\square}$ **[1]**

(b) $2\frac{1}{3} = \frac{\square}{3}$ **[1]**

(c) $7 \times 7 \times 7 \times 7 \times 7 = 7^{\square}$ **[1]**

3. **(a)** Write 0.3 as a fraction.

(a) ..... **[1]**

(b) Write $\frac{1}{4}$ as a decimal.

(b) ..... **[1]**

4. Hannah saves an amount of money each week.
Here are the amounts, in pounds, that she saved in the first 5 weeks of 2019.

13 58 11 22 11

(a) Find

(i) the median of the five amounts,

(a)(i) £ ..... **[2]**

(ii) the range of the five amounts.

(ii) £ ..... **[2]**

(b) In the 6th week, she also saved some money.
The mean amount that Hannah saved each week over the 6 weeks was £22.

How much did she save in the 6th week?

(b) £ ..... **[3]**

5. A man running at a constant speed of 5 metres per second takes 66 seconds to complete a particular distance.
A horse completes the same distance running at a constant speed of 15 metres per second.

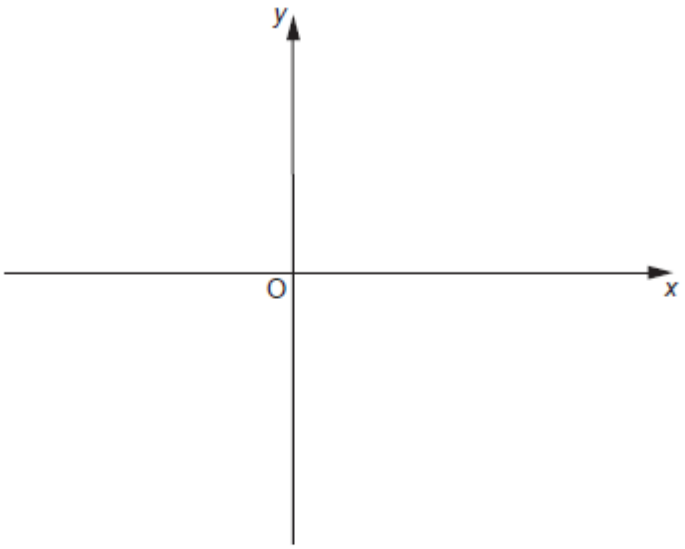
Find the difference, in seconds, in the times taken by the man and by the horse to run this distance.

..... seconds **[3]**

6. **(a)** **(i)** Sketch the graph of $y = 2$.

[2]

(ii) Sketch the graph of $y = x + 1$.



[2]

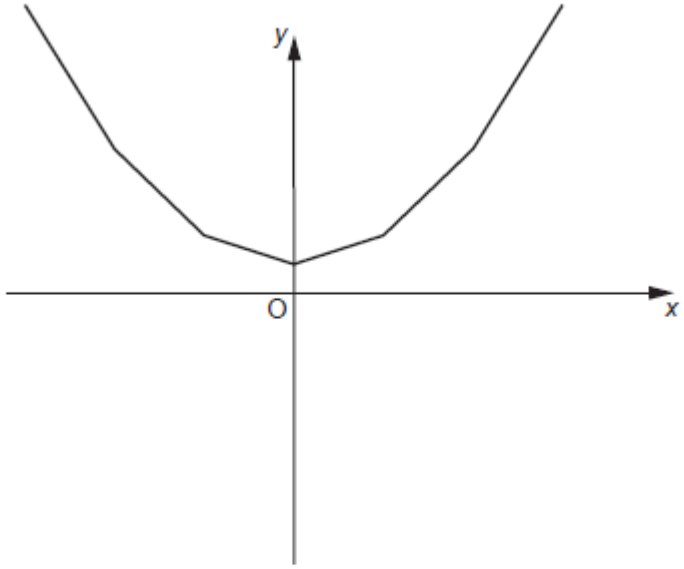
(iii) Ceri says that the graphs of $y = 2$ and $y = x + 1$ cross at the point (2, 3).

Explain the error in her answer.

.....

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

(b) Oliver has sketched the graph of $y = x^2$ below.



Make two comments about the accuracy of his sketch.

1 .....

.....

2 .....

.....

[2]

7. Angie is planning a presentation evening.
She writes down her costs and income.

Costs	Income
10 staff each working 6 hours at £8 per hour Food: 60 meals at £8.95 each Prizes: 12 prizes at £19.99 each	60 guests each paying £5 Sponsorship £1000

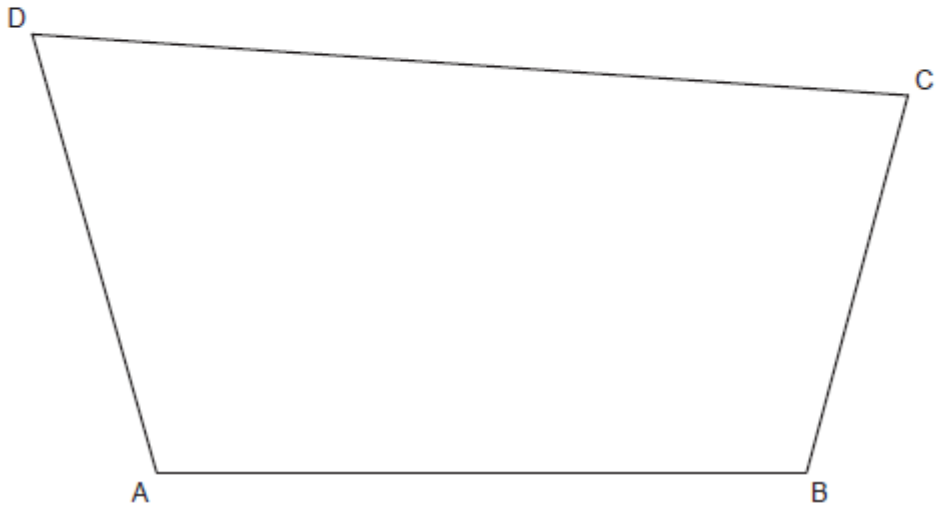
Angie thinks she will make a small profit.

Use estimation to decide if Angie is correct.
Show all of your working.

..... **[6]**

8. The diagram shows the scale drawing of a garden ABCD.

Scale: 1 cm represents 5 m



A tree is to be planted in the garden so that it is

- at least 10 m from AB

and

- closer to CD than CB

and

- at least 15 m from D.

Using a ruler and compasses only, construct and shade the region in which the tree can be planted.

[6]

9. Solve by factorising.

$$x^2 + 9x + 20 = 0$$

$x =$ ..... or $x =$ ..... **[3]**

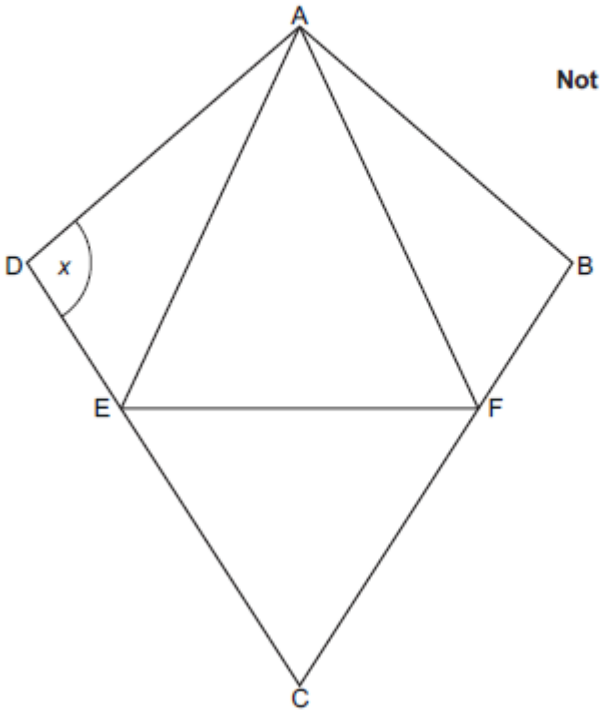
10. On a plane, $\frac{2}{5}$ of the passengers were British.

30% of the British passengers were men.
There were 36 British men on the plane.

Find the total number of passengers on the plane.

..... **[5]**

11. The diagram shows a kite, ABCD.
AFE and CEF are equilateral triangles.



Not to scale

(a) Write down a mathematical name for quadrilateral AFCE.

(a) ..... **[1]**

(b) The ratio of angle DAE : angle EAF = 1 : 4 .

Work out angle x.
Write on the diagram the values of any other angles you use in your working.

(b) $x =$ .....° **[4]**

Total Marks for Question Set 3: 50