GCSE (9-1) Mathematics

J560/02 Paper 2 (Foundation Tier)

Question Set 6

1. **(a)** **(i)** Write 350 centimetres in metres.

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

(ii) Write 1.52 litres in millilitres.

(ii) ..... ml **[1]**

(b) Work out.

5.7 cm + 30 mm.

Give your answer in centimetres.

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

2. **(a)** Complete each statement by writing the missing value in the box.

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

(ii) $1\frac{1}{7} = \frac{\square}{7}$ **[1]**

(b) Work out.

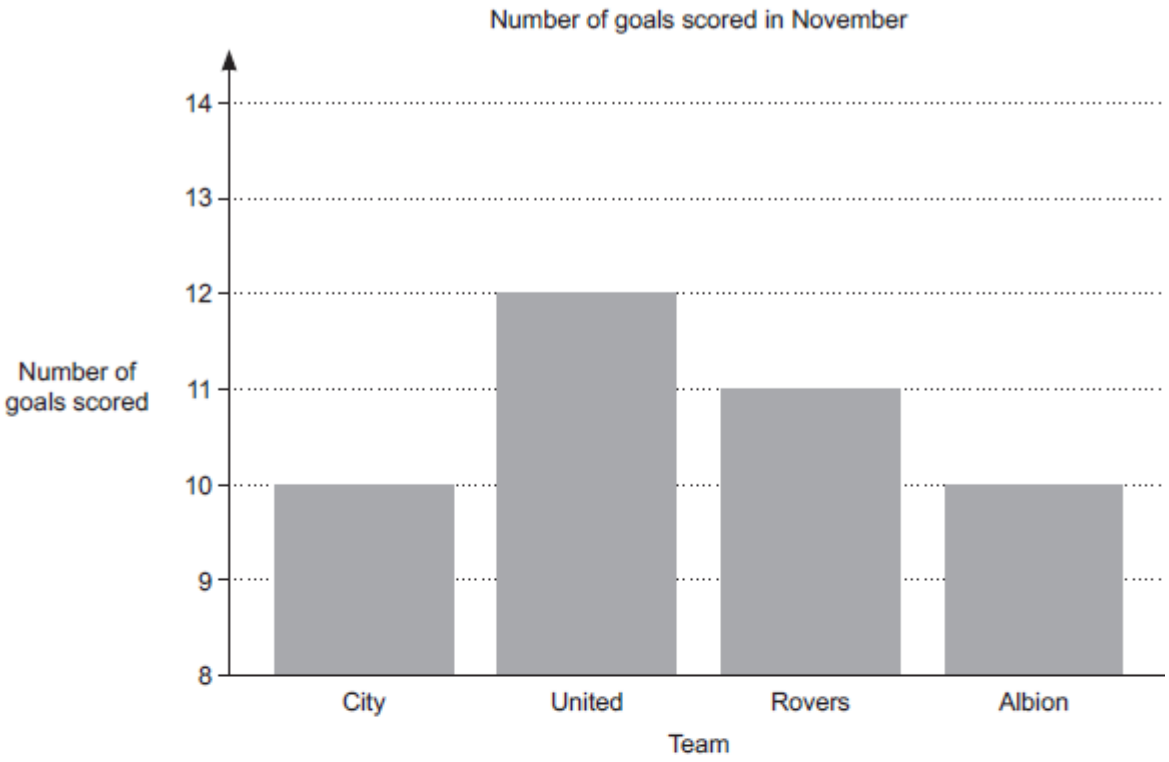
(i) $0.8 \div 2$

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

(ii) 1.7×2

(ii) ..... **[1]**

3. This is Nadia's bar chart to show the number of goals scored by four teams during November.



(a) Blake says

Nadia's bar chart shows that United scored twice as many goals as City.

Is Blake correct?
Give a reason for your answer.

..... because .....

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

(b) Give one way in which Nadia can improve her bar chart.

.....

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

(c) Kareem says

Out of these four teams, United achieved the highest mean number of goals per game during November.

What assumption has Kareem made?

.....

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

4. **(a)** Write $3 \times 3 \times 3 \times 3$ as a power of 3.

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

(b) Show that the answer to $2^6 \times 4^{-1}$ is a square number.

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

5. Simplify.

(a) $\dfrac{5b^6}{b^2}$

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

(b) $(x^4)^3$

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

6. Theo invests £500 at a rate of 6% per year simple interest.

(a) Work out the interest he receives in one year.

(a) £..... **[2]**

(b) Work out the value of his investment after 5 years.

(b) £..... **[2]**

7. A bag only contains red, blue, yellow and white counters.
A counter is taken at random from the bag.
The table shows the probability it is red and the probability it is blue.

Colour	red	blue	yellow	white
Probability	0.24	0.34		

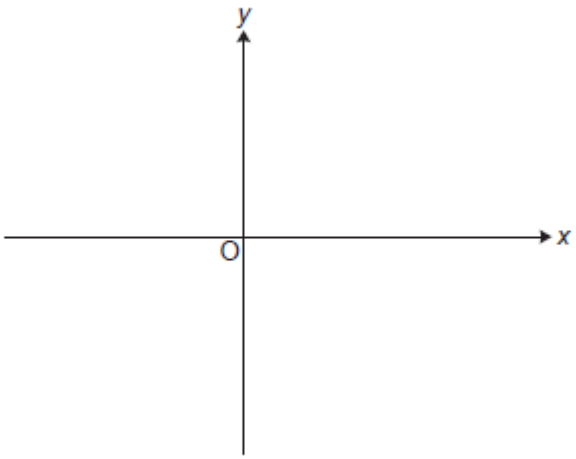
There are twice as many yellow counters as white counters in the bag.

Complete the table. **[5]**

8. **(a)** **(i)** Sketch the graph of $x = 3$.
Show clearly the value of any intercepts.

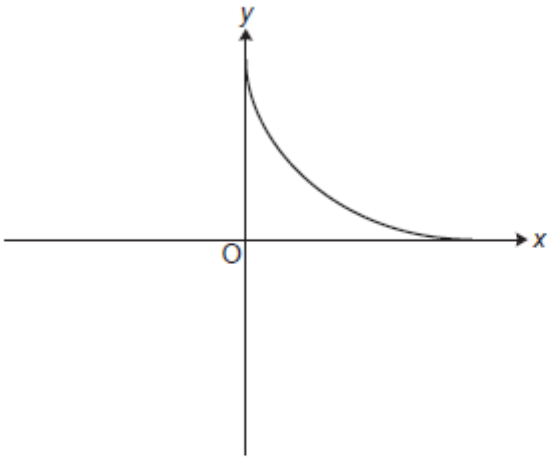
[2]

(ii) Sketch the graph of $y = x^2 + 1$.
Show clearly the value of any intercepts.



[2]

(b) Toby has sketched the graph of $y = \frac{1}{x}$ below.



Make two comments about the accuracy of his sketch.

1 .....

.....

2 .....

.....

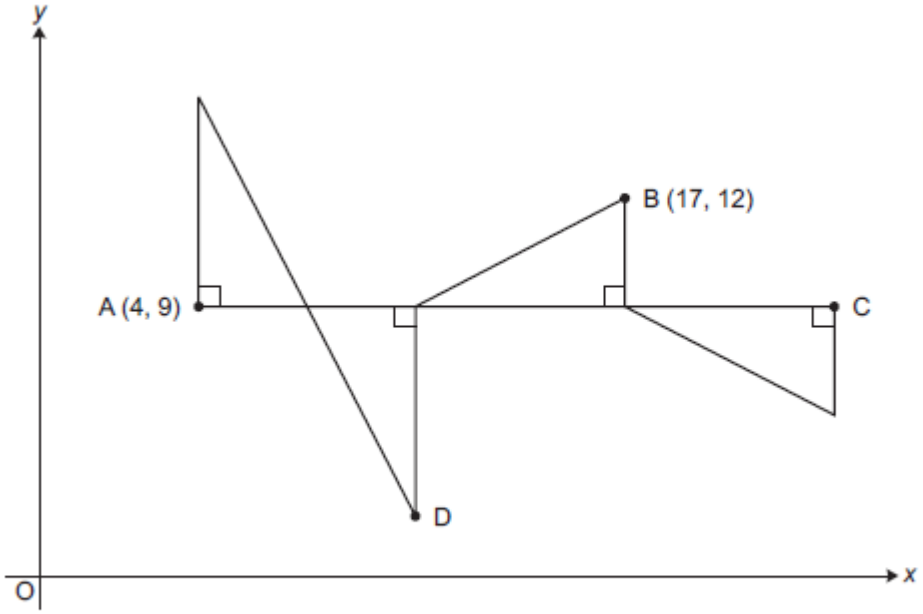
[2]

9. A clock chimes every 20 minutes.
A light flashes every 8 minutes.
The clock chimes and the light flashes together at 08:00.

How many times between 08:01 and 12:30 will the clock chime and the light flash together?
Show your working.

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

10. A pattern is made from four congruent right-angled triangles.



Not to scale

The line AC is parallel to the *x*-axis.
The point A has coordinates (4, 9) and the point B has coordinates (17, 12).

Work out the coordinates of point C and point D.

C (..... , ...)

D (..... , ...) **[5]**

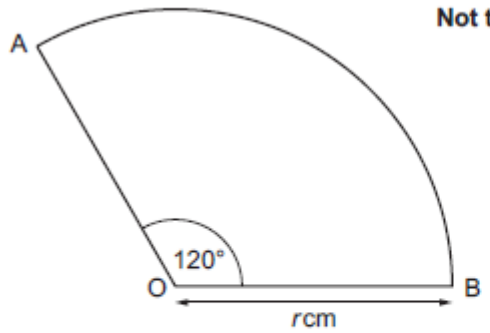
11. Solve the simultaneous equations.

$2x + 3y = 10$
$3x + 5y = 17$

$x =$ .....

$y =$ ..... **[4]**

12. AOB is a sector of a circle, centre O.



The area of the sector is $8\,cm^2$.

Work out the exact value of the radius, r cm.

$r =$ ..... cm **[4]**

Total Marks for Question Set 6: 50