Name ..... Class .....

Non-Calculator Crossover Paper 4

GCSE Mathematics · Foundation and Higher

40 marks · 45 minutes · Non-Calculator

1 Work out $2\frac{2}{5} \div \frac{3}{4}$

Give your answer as a mixed number in its simplest form.

..... **(2)**

[Question 1: 2 marks]

2 The stem and leaf diagram shows the number of minutes 15 patients waited to see a doctor.

1	2 5 8
2	0 3 3 7 9
3	1 4 6 6
4	0 2 5

Key: 1 | 2 means 12 minutes

(a) Find the median waiting time.

..... minutes **(1)**

(b) Work out the range of the waiting times.

..... minutes **(1)**

(c) One of the 15 patients is chosen at random.

Work out the probability that this patient waited more than 35 minutes.

..... **(1)**

[Question 2: 3 marks]

3 (a) Write 108 as a product of its prime factors.

..... **(2)**

(b) Find the highest common factor (HCF) of 108 and 72

..... **(2)**

[Question 3: 4 marks]

4 The length of a piece of ribbon is 3.6 m, correct to 1 decimal place.

Write down the error interval for the length, L metres, of the ribbon.

..... **(2)**

[Question 4: 2 marks]

5 (a) Expand and simplify $(x - 7)(x + 2)$

..... **(2)**

(b) Expand and simplify $(3y - 2)(2y + 5)$

..... **(2)**

[Question 5: 4 marks]

6 A bag contains red, blue and green counters only.

Kai takes a counter at random from the bag.

The probability that the counter is red is 0.35

The probability that the counter is blue is 0.25

Kai puts the counter back in the bag.

He does this 80 times.

Work out an estimate for the number of times Kai takes a green counter.

..... **(2)**

[Question 6: 2 marks]

7 It takes 6 decorators 15 days to paint the rooms in a hotel.

The hotel manager wants the rooms painted in 9 days.

How many more decorators are needed?

Assume that each decorator works at the same rate.

..... **(3)**

[Question 7: 3 marks]

8 The diagram shows a solid metal cuboid.

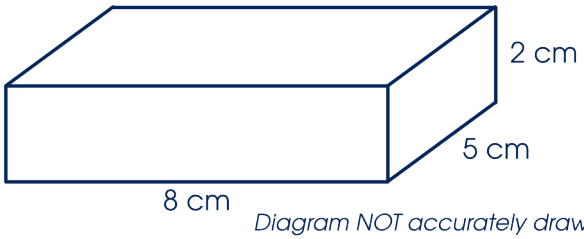


Diagram NOT accurately drawn

The mass of the cuboid is 680 g.

Work out the density of the metal.

..... g/cm^3 **(3)**

[Question 8: 3 marks]

9 The diagram shows a trapezium and a rectangle.

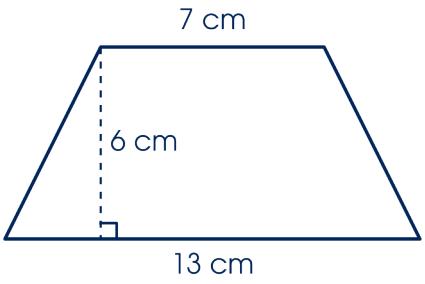




Diagram NOT accurately drawn

The area of the trapezium is equal to the area of the rectangle.

The width of the rectangle is 5 cm.

Work out the length of the rectangle.

..... cm **(3)**

[Question 9: 3 marks]

10 Make k the subject of the formula $P = 4k + 3m$

$k =$ ..... **(2)**

[Question 10: 2 marks]

11 The diagram shows a quarter of a circle, centre O.

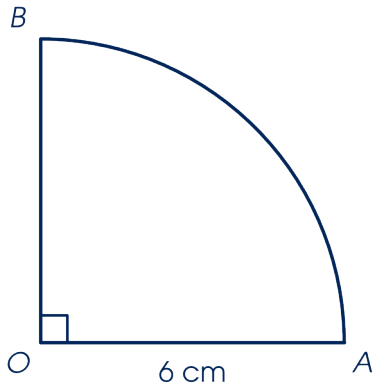


Diagram NOT accurately drawn

The radius of the circle is 6 cm.

Work out the perimeter of the quarter circle.

Give your answer in terms of π.

..... cm **(3)**

[Question 11: 3 marks]

12 *ABCD* is a quadrilateral.

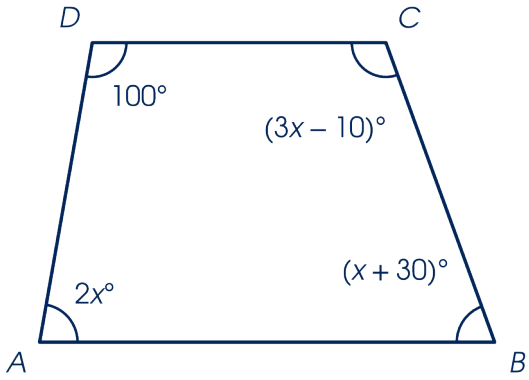


Diagram NOT accurately drawn

Work out the size of the largest angle in the quadrilateral.

..... ° **(4)**

[Question 12: 4 marks]

13 (a) The nth term of a sequence is $47 - 3n$

Find the first term of the sequence that is negative.

..... **(2)**

(b) The rule to find the next term of a different sequence is

add the two previous terms

The first term of this sequence is 3 and the second term is a.

The fifth term of the sequence is 21

Work out the value of a.

$a =$ ..... **(3)**

[Question 13: 5 marks]

TOTAL FOR PAPER IS 40 MARKS