

GCSE Maths (Non-Calculator)

Practice Foundation Paper 1

AQA Specification

Time: 1 hour 30 minutes (80 Marks)

Name: _____

Class: _____



Maths

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1. Circle the correct answer to $4 - 7 + 2$

[1 mark]

- A) -5 B) 5 C) -1 D) 1

2. Which coordinate is the midpoint of (3, 9) and (-2, 5)?

[1 mark]

- A) (-1, 7) B) (0.5, 7) C) (2.5, 7) D) (-2.5, 7)

3. Work out $0.25 + \frac{1}{5}$

[1 mark]

- A) 0.45 B) 0.9 C) 1.25 D) 0.75

4. The formula to work out the amount of medicine, m , needed for a child is given by:

$$m = \frac{ap}{4}$$

where a is the age of the child in months and p is the weight of the child in kilograms.

a. Calculate the value of m when the child is 6 months old and weighs 10kg.

[1 mark]

_____ml

b. Calculate the age of a child who weighs 6kg and who would receive 3ml of medicine.

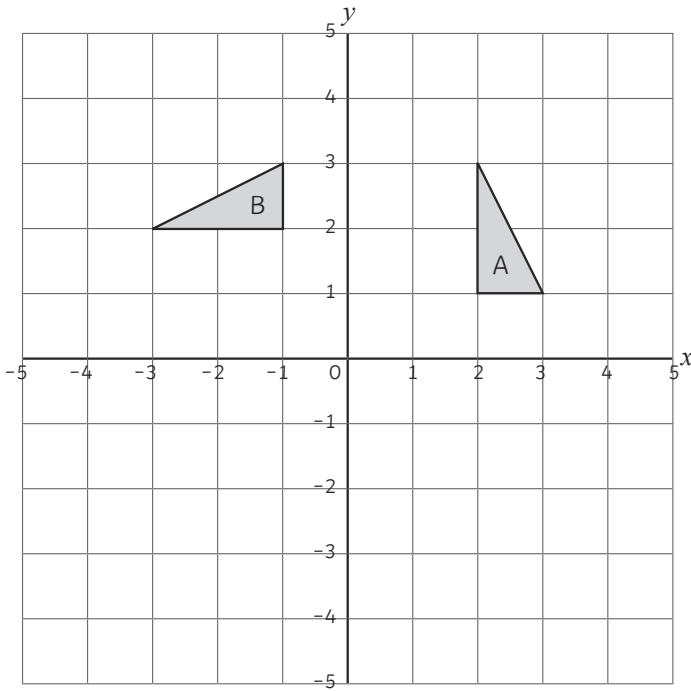
[2 marks]

_____months



5. Describe fully the single transformation that maps triangle A onto triangle B.

[3 marks]



6. Estimate the value of: $\frac{398 \times 11.5}{0.51}$

[3 marks]

7. a. Solve the inequality $4x - 1 \geq 9$

[2 marks]

b. Hence write down the smallest integer which satisfies the inequality $4x - 1 \geq 9$

[1 mark]



8. The table shows the sales of ice creams over the course of a week in June.

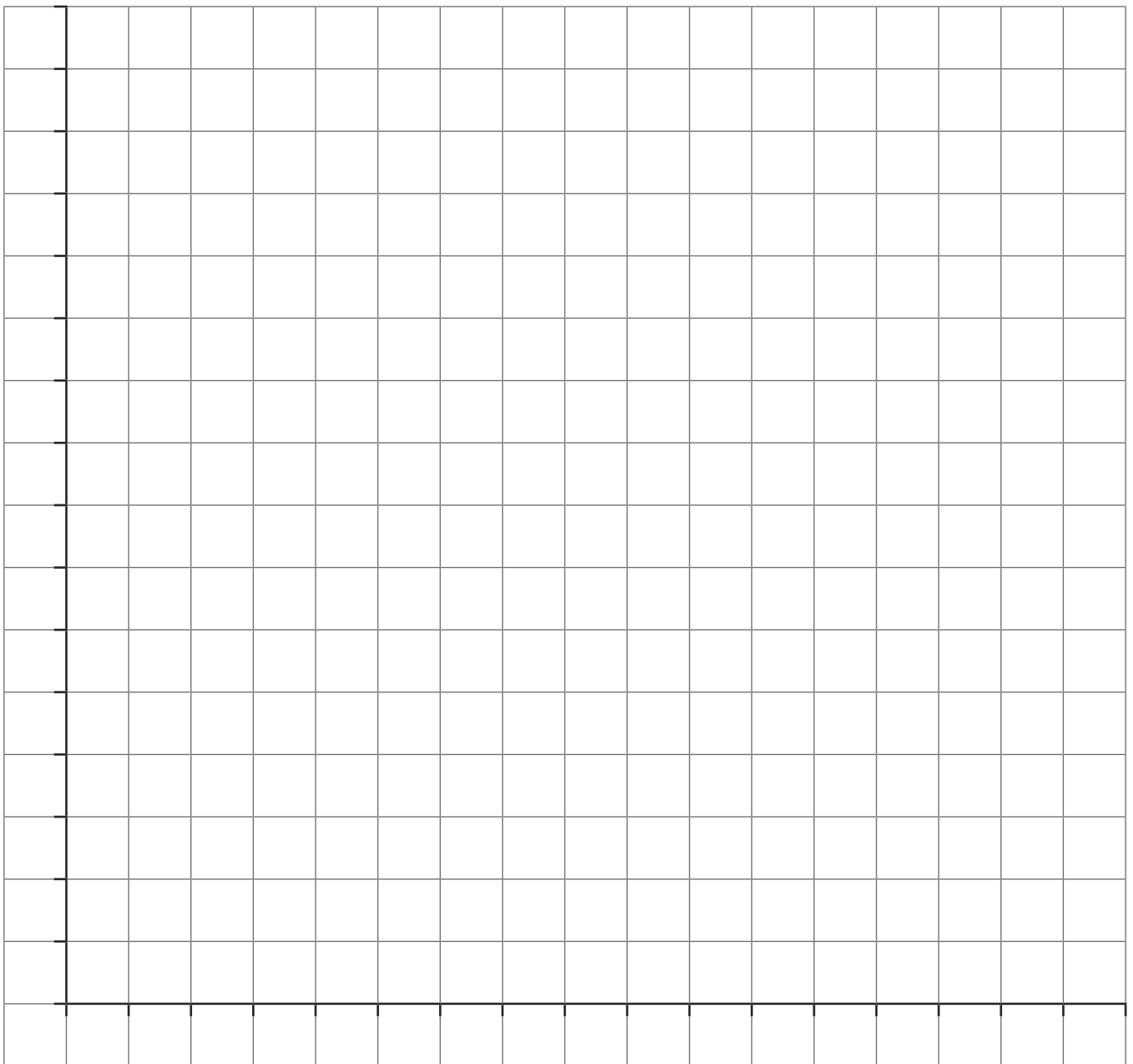
Day	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Sales of ice cream (£)	18	23	27	19	15	31	35

a. Calculate the range of the number of ice creams sold during the week.

[2 marks]

b. Draw a suitable chart or graph to represent this information.

[3 marks]



9. a. Dennis says that $\frac{3}{5}$ add $\frac{1}{4}$ is more than 1. Is he correct? Show your working.

[2 marks]

b. Work out $2\frac{2}{3} \times 1\frac{3}{4}$

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

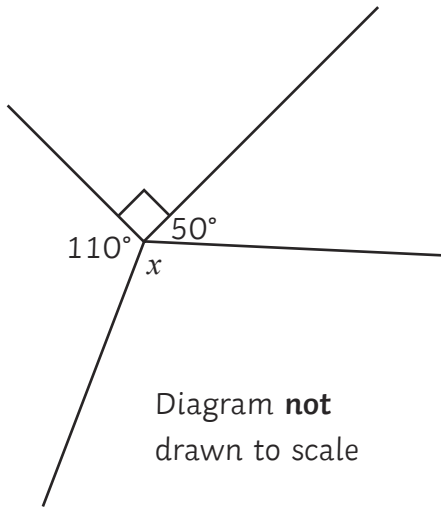
[3 marks]

c. Calculate $\frac{4}{7}$ of 35

[1 mark]



10.



a. i) Calculate the size of the angle marked x .

[2 marks]

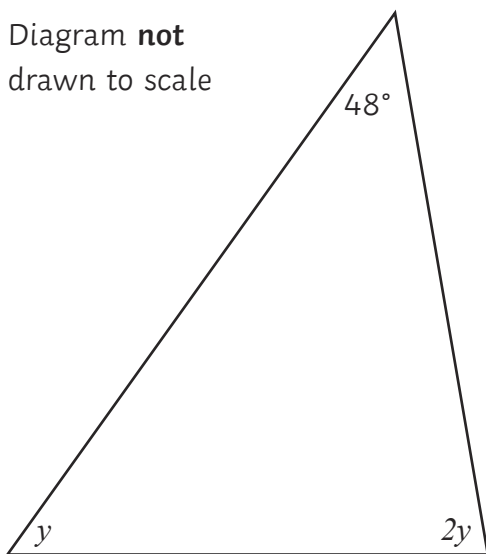
$x =$ _____^o

ii) Give a reason for your answer.

[1 mark]

b. The diagram shows the side profile of a climbing frame.

Diagram **not** drawn to scale



Form and solve an equation to find the value of the letter y .

[3 marks]

$y =$ _____

11. Amy is packing tins of beans into cartons. Each tin of beans weighs 415 grams and each carton contains 12 cans. Calculate the total weight of the carton, giving your answer in kilograms.

[3 marks]

_____ kg

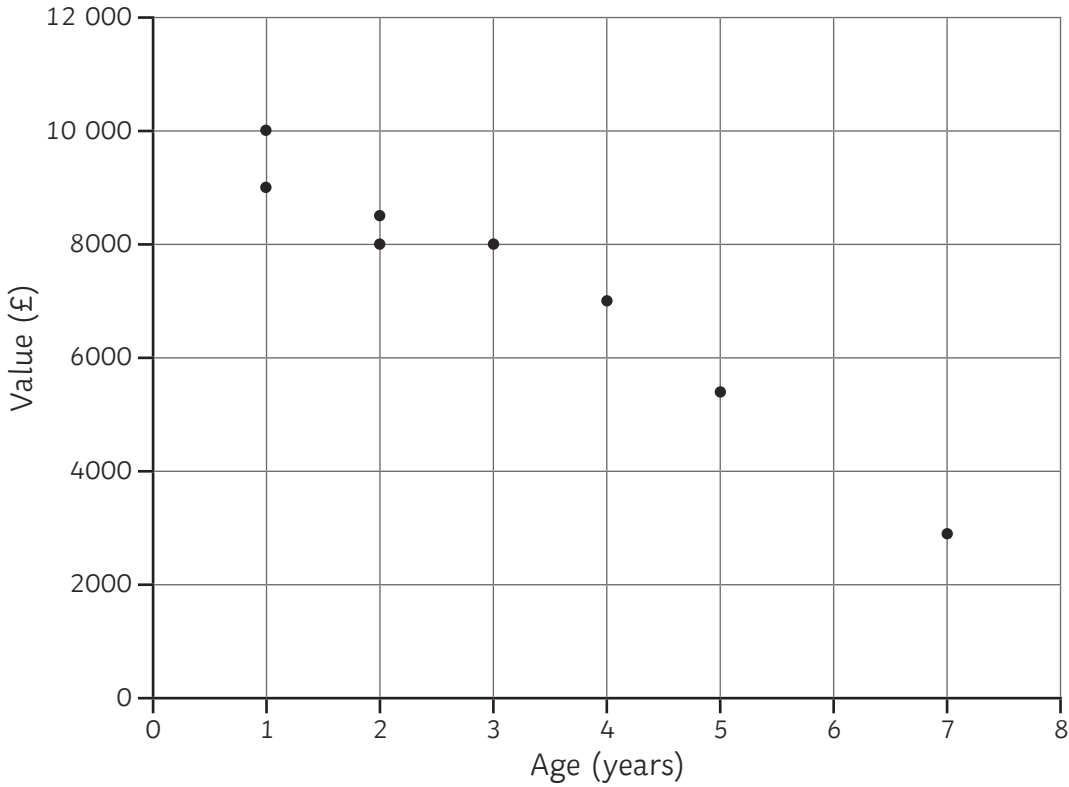


12. The table shows the values of 10 used cars in a garage.

Age (years)	1	2	5	2	4	3	1	7	8	3
Value (£)	9000	8000	6000	8500	7000	8000	10 000	3500	3000	7500

a. Complete the scatter diagram.

[1 mark]



b. Describe the relationship between the age of a car and its value.

[1 mark]

c. Estimate the value of a car which is 6 years old.

[2 marks]

£ _____

13. Factorise the expression $x^2 + 4x - 21$

[2 marks]



14. a. Place the following in order of size, from smallest to largest.

[2 marks]

$$0.31 \quad \frac{2}{5} \quad 28\% \quad \frac{1}{4}$$

b. Four friends share a meal. David pays for $\frac{1}{5}$ of the bill. Elena pays 24% and Frankie pays $\frac{3}{10}$.

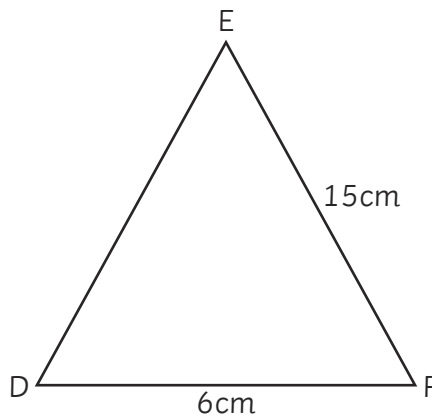
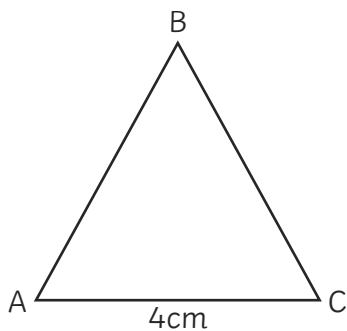
Show that there is 26% of the bill left to pay.

[2 marks]

15. Triangles ABC and DEF are similar.

Work out the length of BC.

[2 marks]



Diagrams **not**
drawn to scale



16. The first five terms in a number sequence are:

8, 11, 14, 17, 20

a. Write down the n^{th} term of the sequence.

[2 marks]

b. Sara says that 753 is a term in this sequence. Is she correct? Explain your answer.

[2 marks]

17.



The diagram shows a rectangle of width x centimetres. The length of the rectangle is 4cm longer than its width.

Write down an expression, in terms of x , for the perimeter of the rectangle. Give your answer in its simplest form.

[2 marks]

Perimeter = _____cm

18. Robert and Sital are cycling to work.

Robert is cycling at an average speed of 14km/h.

Sital travels 4.5km in 20 minutes.

Who has the faster average speed? Explain your answer.

[2 marks]



19. The diagram shows a right-angled triangle.

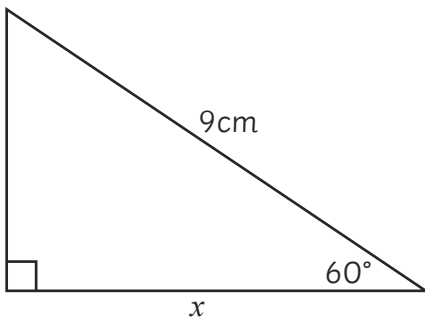


Diagram **not**
drawn to scale

Calculate the size of the length marked x .

[3 marks]

20. Alex is y years old. His sister, Bella, is 4 years older than him. Carla is double Alex's age. The sum total of their ages is 32.

Form and solve an equation to work out the ages of the three children.

[3 marks]

Alex _____ Bella _____ Carla _____

21. The diagram shows a circle inscribed in a square with side length 8cm.

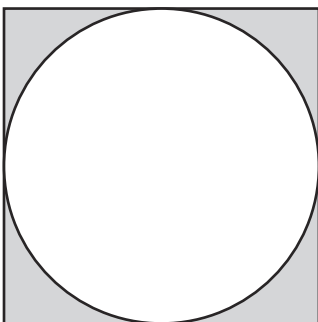


Diagram **not**
drawn to scale

Calculate the area of the shaded region, giving your answer in terms of π .

[3 marks]

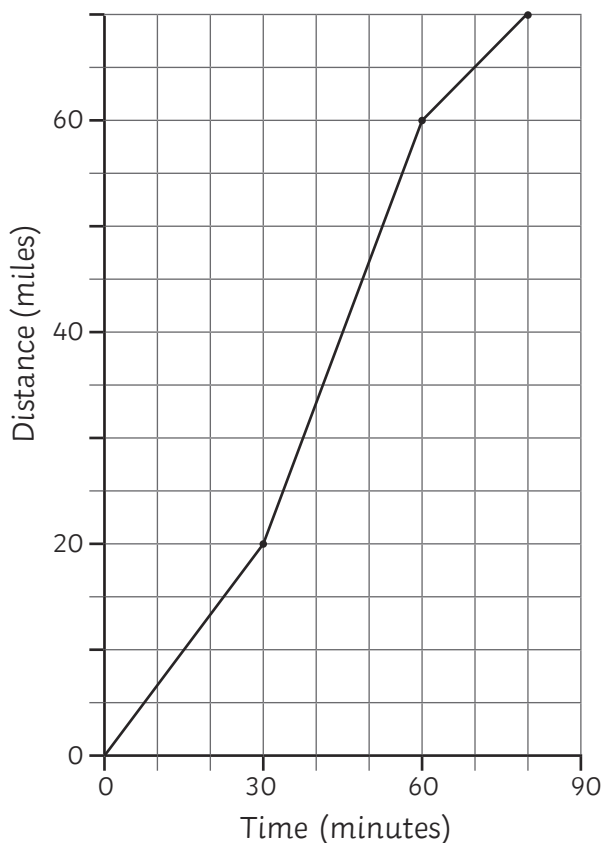
_____ cm^2



22. Lola, Marnie and Nitish share some money. Lola receives $\frac{2}{5}$ of the money whilst Marnie and Nitish share the remainder in the ratio 3:4. Work out the proportion of the money that Nitish receives. [3 marks]

23. Edward travelled 70 miles from his home to Manchester.

The distance-time graph shows his journey.



Calculate his fastest speed on this journey, giving your answer in miles per hour.

[3 marks]

_____mph

24. Given that $8^4 \times 2^x = \frac{1}{2}$, find the value of x .

[3 marks]

$x =$ _____



25. 8 girls and 10 boys run a 200m race.

The mean time taken for the girls was 43 seconds.

The overall mean time taken for all the children was 37 seconds.

Calculate the mean time taken for the boys.

[3 marks]

_____seconds

26. A farm has goats and ducks.

There are a total of 42 goats and ducks.

Between the goats and ducks, there are a total of 114 feet.

Assuming goats have four feet and ducks have two, use an algebraic method to calculate the number of goats and ducks on the farm.

[4 marks]

Goats _____ Ducks _____

