

KS3 Practice Paper

Mathematics

Foundation

Calculator

1 hour (60 marks)

Name: _____

Class: _____



Maths

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1. Jackie wants to hire a car for her holiday.

Hiring the car will cost £35 to set up and then £22 per day.

- a. Using d to represent the number of days, write an equation to describe the cost. (2 marks)

Cost in pounds (£) = _____

- b. Jackie decides to hire the car for 14 days. Calculate the total cost. (1 mark)

Cost = _____

2. a. Factorise fully: $6a + 24$ (1 mark)

- b. Expand: $12(3b - 5)$ (1 mark)

- c. Simplify: $15a + 2b + 6a - 10b$ (2 marks)

3. a. Circle all the prime numbers: (1 mark)

5 9 2 13 25 1

- b. Martha states that when two square numbers are added, the answer will always be a square number.
For example: $9 + 16 = 25$

Give an example to show that this is not always true. (1 mark)

4. a. Find 23% of 500. (2 marks)



b. Increase 370 by 12%.

(2 marks)

5. The following two parallelograms are similar. Calculate the value of x .

(2 marks)

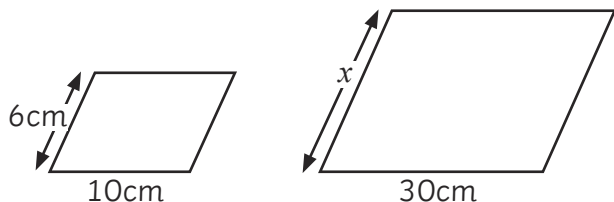


Diagram not drawn accurately.

$x =$ _____

6. a. The area of a circle is 90cm^2 . Calculate its radius. Give your answer correct to 1d.p. (2 marks)

radius = _____

b. Calculate the circumference of the circle given below. Give your answer correct to 2d.p. (2 marks)

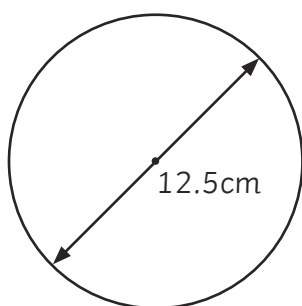


Diagram not drawn accurately.

circumference = _____

7. A baker measures the weights of 8 brownies. His results are shown in the table.

65g
70g
50g
55g
62g
68g
69g
72g

Calculate the mean weight of the brownies.

Give your answer correct to the nearest gram.

(3 marks)

mean weight = _____



8. The area of the trapezium is 73.5cm^2 . Calculate the value of a . (3 marks)

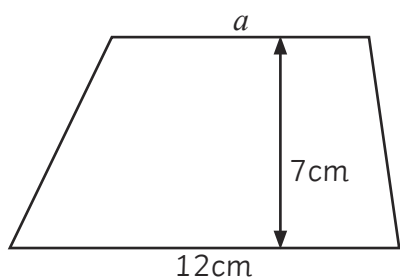
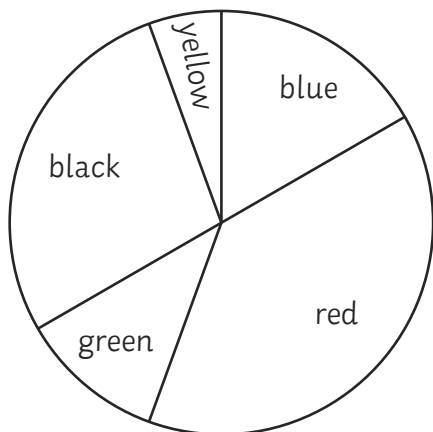


Diagram not drawn accurately.

$a =$ _____

9. The diagram below summarises the results of a survey which asked 36 people to name their favourite colour.

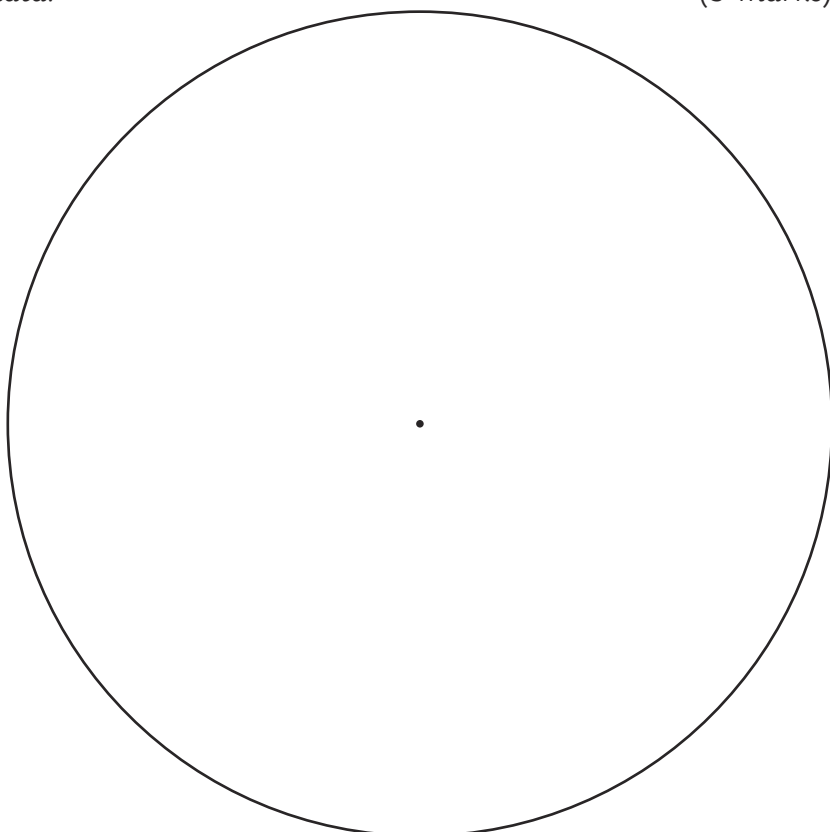


- a. Calculate how many people chose red as their favourite colour. (2 marks)

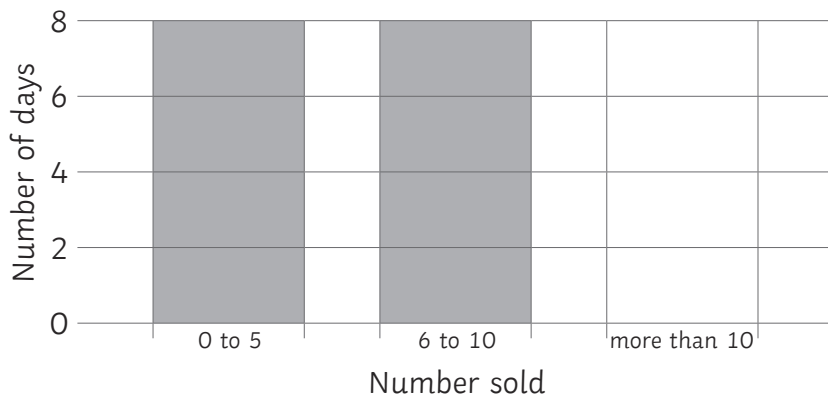
- b. Calculate how many people chose black as their favourite colour. (1 mark)

- c. The table below shows the results of a survey which asked 60 people to name their favourite sport. Draw a pie chart to represent the data. (3 marks)

Favourite sport	No.
Football	24
Cricket	9
Basketball	10
Netball	12
Other	5

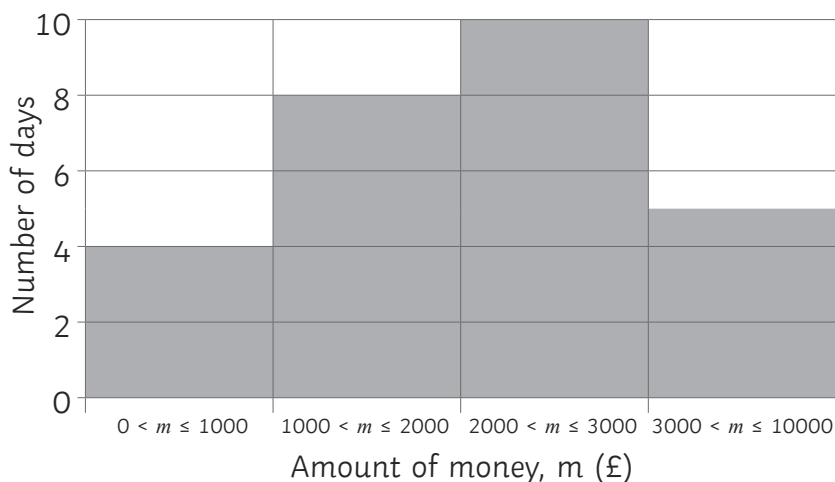


10. A shop has stocked a new product. To find out if the new product has been successful, the manager keeps a record of how many they sell each day for 20 days.



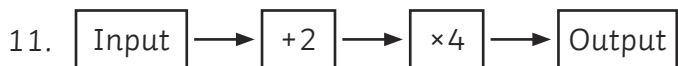
a. Complete the bar chart to show on how many days the shop sold more than 10 of the new product.
(1 mark)

The manager also kept records of how much money they made from sales each day.



b. How many days did the manager record the sales for? (1 mark)

c. What might be misleading about the bar chart? (1 mark)



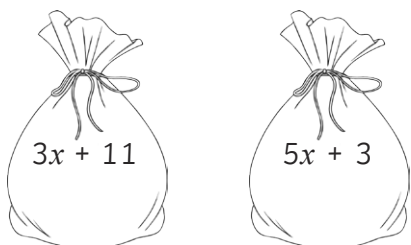
a. Calculate the output if the input is 2.8. (1 mark)

b. Calculate the input if the output is 7.2. (2 marks)

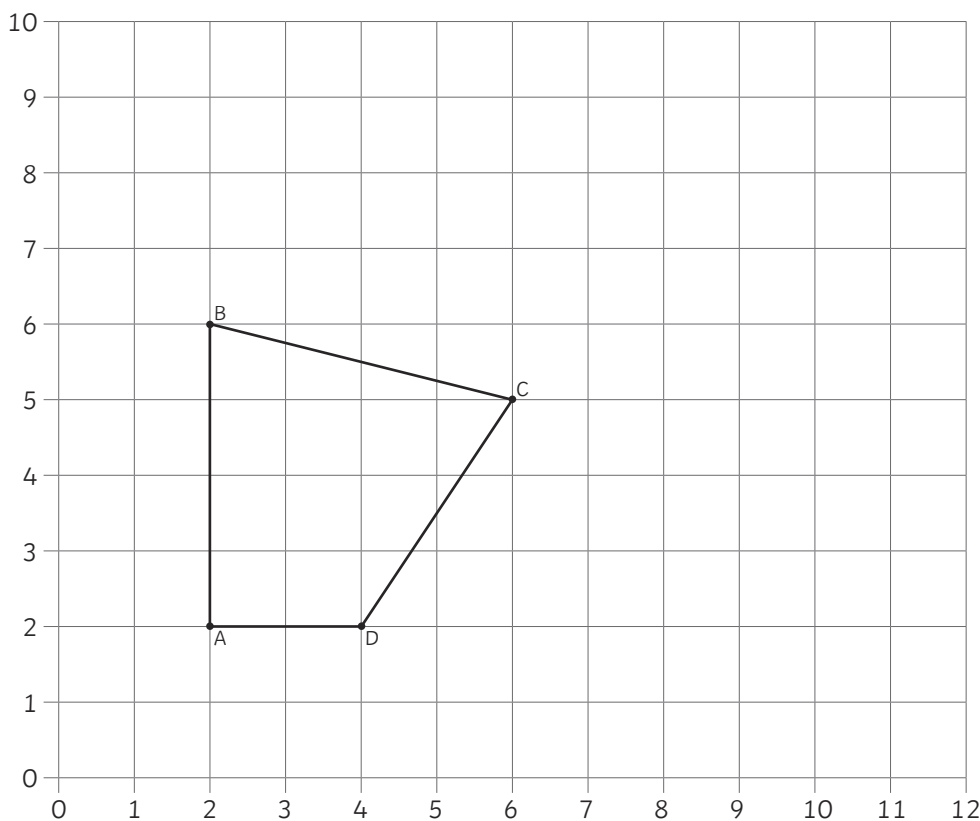


12. A car makes a journey of 64 miles in 80 minutes.
Calculate the average speed of the car in miles per hour. (2 marks)

13. Two bags contain the same number of counters. The expressions on the bags show the number of counters contained within each, in terms of x . How many counters does each bag contain? (3 marks)



14. The graph shows a quadrilateral on a centimetre square grid.
a. Rotate shape ABCD 90 degrees clockwise about point (7, 2). (2 marks)



- b. Calculate the area of ABCD. You must state the units in your answer. (3 marks)

area = _____



15. a. Calculate the size of the angle marked x : (2 marks)

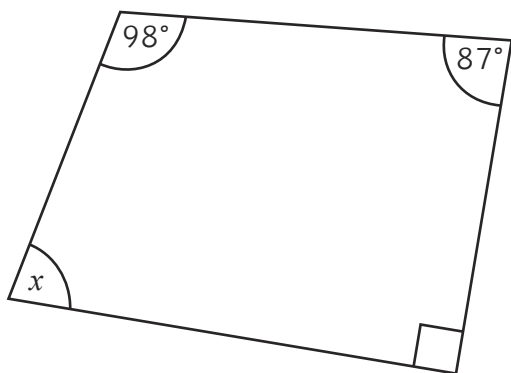


Diagram not drawn accurately.

$x =$ _____

- b. Calculate the value of y : (3 marks)

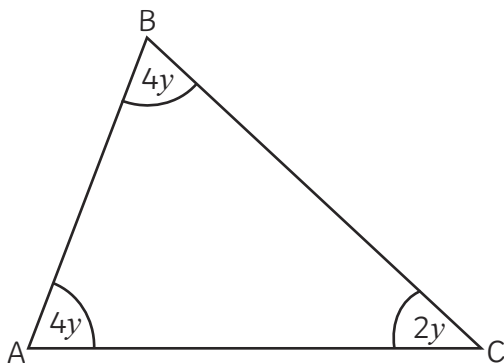


Diagram not drawn accurately.

All angles given in degrees.

$y =$ _____

16. A grandmother shares pocket money between her three grandchildren. She uses their ages as a ratio to calculate how much pocket money each grandchild should receive. Her grandchildren are 5, 9 and 10 years of age.

- a. She gives them £12 to share. Calculate the amount each grandchild receives. (3 marks)

- b. The following year she gives her grandchildren some more money to share. The youngest child receives £9. Calculate the total amount of money the grandmother gave her grandchildren to share. (3 marks)

17. Two buses enter a station at 8.15am. **Bus A** runs every 12 minutes. **Bus B** runs every 15 minutes. Find the next time they will enter the station at the same time. (2 marks)

