Weekly check: Year 8 whole year

Year 8 | Key Stage 3 | The whole year | 20 questions, 50 marks

KS3 Maths weekly check

Scan for the solutions

Name: _____ **Date:** _____ **Score:** _____ **/ 50**

1 It takes 8 bricklayers 15 days to build a wall.

a. Work out how many days it would take 12 bricklayers to build the same wall.

b. State one assumption you have made.

(3 marks)

Answer _____

2 The diagram shows a sector of a circle with radius 9 cm and angle 100°.

Work out the area of the sector. Give your answer correct to 1 decimal place.

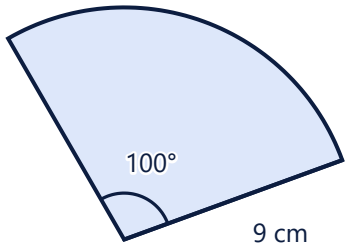


Diagram NOT accurately drawn

(2 marks)

Answer _____

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3 At midnight the temperature in York was −4 °C.

By 4 am the temperature had fallen by 5 °C.

By 10 am the temperature had risen by 8 °C from its 4 am value.

Work out the temperature at 10 am.

(2 marks)

Answer _____

4 A block of pine wood has a volume of 240 cm^3.

The density of the pine wood is 0.65 g/cm^3.

Work out the mass of the block.

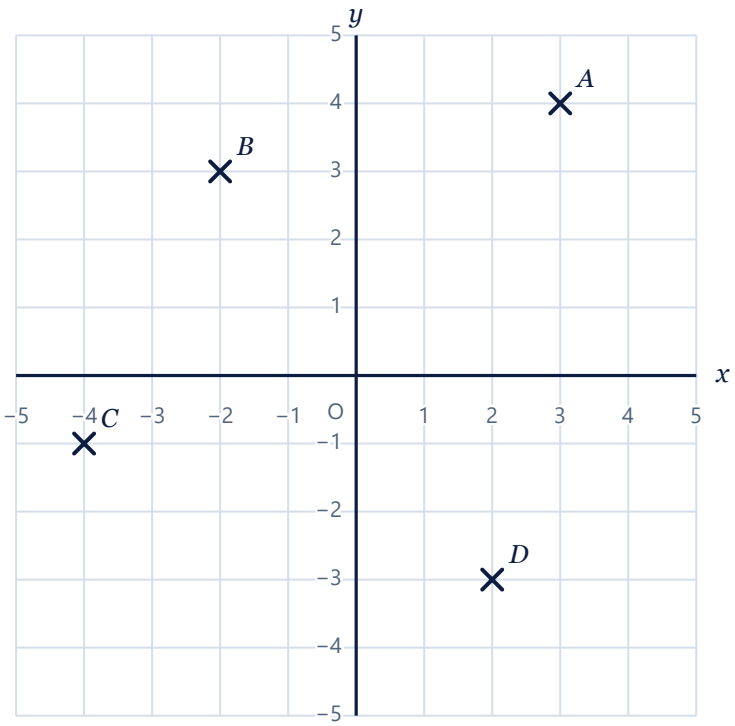
(2 marks)

Answer _____

5 The points A, B, C and D are shown on the grid.

a. Write down the coordinates of A and B.

b. Write down the coordinates of C and D.



(2 marks)

Answer _____

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6 Ben wants to work out the perimeter of a square with sides of length 6 cm.

Ben writes:

perimeter = 6 × 6 = 36 cm

Explain the mistake Ben has made.

(2 marks)

Answer _____

7 A garden pond is a cuboid 2.5 m long, 1.2 m wide and 0.6 m deep.

The pond is filled with water from a hose. Water flows from the hose at 15 litres per minute.

Work out how long it takes to fill the pond. Give your answer in hours.

1 m^3 = 1000 litres

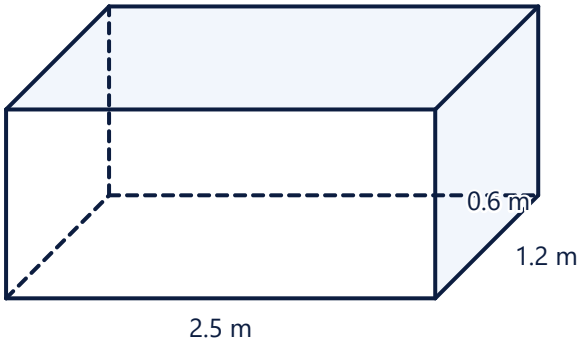


Diagram NOT accurately drawn

(3 marks)

Answer _____

8 By rounding each number to 1 significant figure, work out an estimate for

(587 + 214) ÷ 3.9

(2 marks)

Answer _____

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9 The stem and leaf diagram shows the masses, in grams, of some tomatoes.

Stem	Leaves
2	1 4 6
3	0 2 5 8
4	3 7

Key: 2 | 1 = 21 grams

Find the range of the masses.

(2 marks)

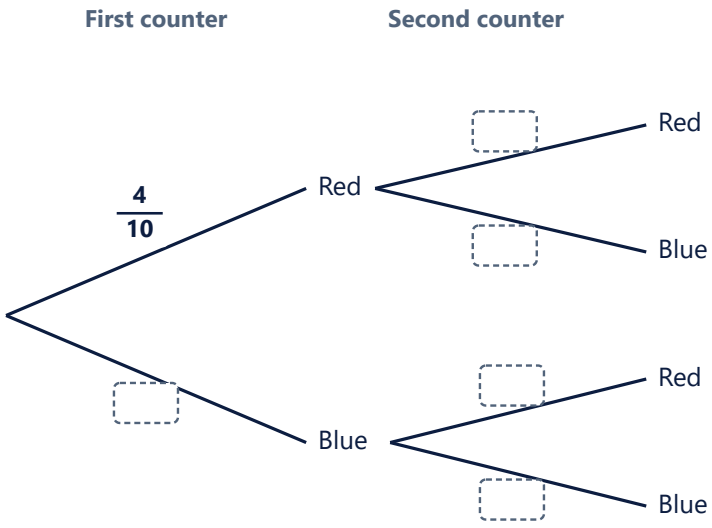
Answer _____

10 A bag contains 4 red counters and 6 blue counters. Isla takes a counter at random and does **not** put it back. She then takes a second counter at random.

a. Explain why the colour of the second counter is not independent of the colour of the first counter.

b. Complete the probability tree diagram.

c. Work out the probability that both counters are red.



(4 marks)

Answer _____

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11 Work out the size of each interior angle of a regular decagon.

(3 marks)

Answer _____

12 n is an integer.

$-2 < n \leq 3$

Write down all the possible values of n.

(2 marks)

Answer _____

13 Amara bakes cakes. Each cake needs $2\frac{1}{4}$ cups of flour.

a. How many cups of flour does she need for 3 cakes? Give your answer as a mixed number.

b. Amara has 10 cups of flour. Work out how many whole cakes she can make, and how much flour she has left over.

(4 marks)

Answer _____

14 The diagram shows triangle PQR and triangle XYZ.

Are the two triangles congruent? Give a reason for your answer.

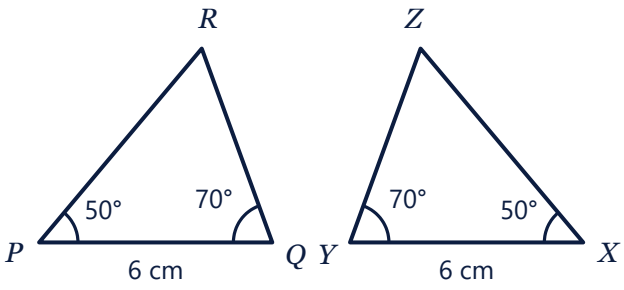


Diagram NOT accurately drawn

(2 marks)

Answer _____

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15 The table shows information about the time, t minutes, that 30 customers waited at a garage.

Time (t minutes)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 20$	9
$20 < t \leq 30$	12
$30 < t \leq 40$	5

Work out an estimate for the mean waiting time.

(3 marks)

Answer _____

16 Make x the subject of the formula

$5(x + 2y) = w + 3x$

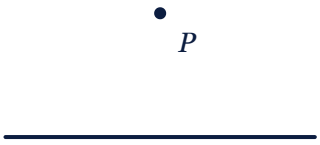
(3 marks)

Answer _____

17 Draw a straight line 10 cm long. Mark a point P about 4 cm above the line.

Using a ruler and compasses only, construct the perpendicular from P to the line.

You must show all your construction lines.



(2 marks)

Answer _____

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18 Find the highest common factor (HCF) of 54 and 90

(2 marks)

Answer _____

19 The line AB is perpendicular to the line CD. They cross at O. The straight line EF also passes through O.

Angle BOE = 27°.

a. Work out the size of angle x. Give a reason.

b. Work out the size of angle y. Give a reason.

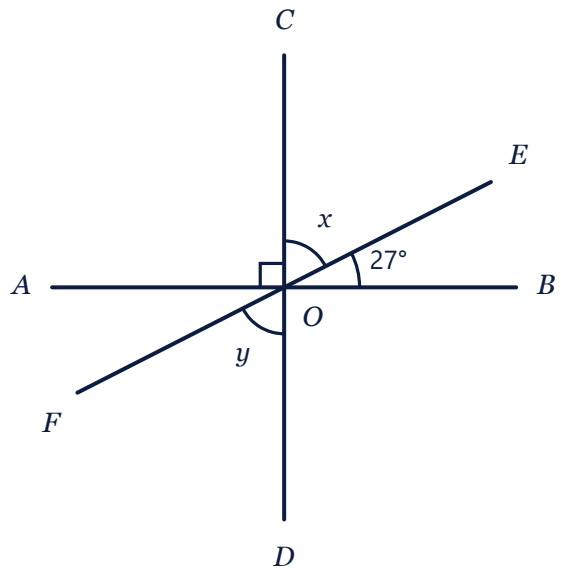


Diagram NOT accurately drawn

(3 marks)

Answer _____

20 a. Write $7^4 \times 7^3$ as a single power of 7

b. Write $12^9 \div 12^4$ as a single power of 12

(2 marks)

Answer _____

End of questions | Total 50 marks

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