Weekly check: Grade 2

Worked solutions

GCSE Maths weekly check

All weekly checks online

1 The attendance at a football match was 24617.

a. Round 24617 to the nearest 100.

b. Round 24617 to the nearest 1000.

(2 marks)

a)

Tens digit is 1, round down

24600

b)

Hundreds digit is 6, round up

25000

2 Find two prime numbers that add together to make 32.

(2 marks)

Try prime pairs with sum 32

3 + 29 = 32 and both 3 and 29 are prime

13 + 19 = 32 also works

3 and 29 (or 13 and 19)

3 A school has 400 pupils. 25% of them walk to school and 10% cycle.

a. How many pupils walk to school?

b. How many pupils cycle?

c. How many pupils neither walk nor cycle?

(3 marks)

a)

$400 \div 4 = 100$

$\boxed{100}$

b)

$400 \div 10 = 40$

$\boxed{40}$

c)

$100 + 40 = 140$

$400 - 140 = 260$

$\boxed{260}$

4 Aisha says,

"32 can be written as the sum of two square numbers."

Is Aisha correct?

You must show your working.

(3 marks)

List the square numbers up to 32: 1, 4, 9, 16, 25

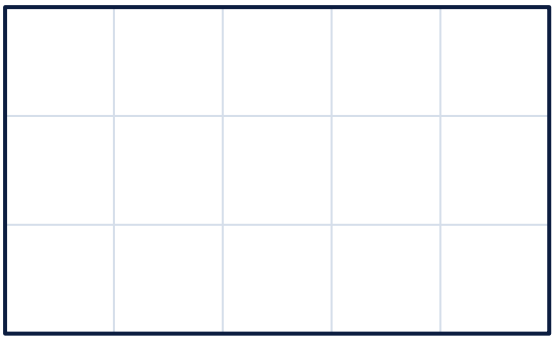
Check pairs that total 32

$16 + 16 = 32$

$16 = 4^2$, so $32 = 4^2 + 4^2$ and Aisha is correct

5 The rectangle is drawn on a grid of centimetre squares.

Work out the perimeter of the rectangle.



(2 marks)

Length = 5 cm, width = 3 cm

5 + 3 + 5 + 3 = 16

16 cm

6 Seven children have these ages.

12, 9, 15, 11, 9, 14, 10

Work out the median age.

(2 marks)

Put in order

9, 9, 10, 11, 12, 14, 15

7 values, so the middle is the 4th

11

7 Priya works for 9 hours.

She is paid a total of £102.60

Priya is paid the same amount for each hour she works.

Work out how much Priya is paid per hour.

(2 marks)

Divide the total pay by the number of hours

102.60 ÷ 9 = 11.40

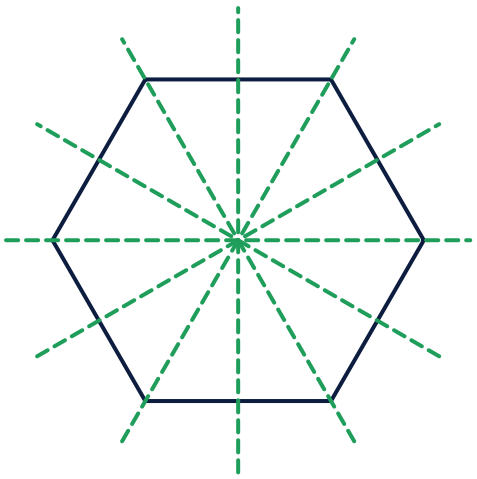
Priya is paid £11.40 per hour

£11.40

8 The diagram shows a regular hexagon.

a. Draw all the lines of symmetry on the hexagon.

b. Write down the number of lines of symmetry of a regular hexagon.



(3 marks)

a)

3 lines join opposite corners

3 lines join midpoints of opposite sides

b)

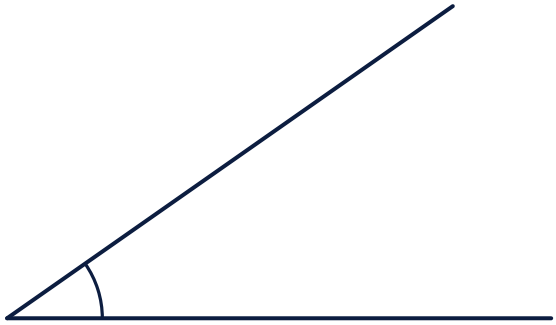
3 + 3 = 6

6

9 The diagram shows an angle.

a. Use a protractor to measure the angle.

b. Write down the type of angle.



(2 marks)

a)

Centre on the corner, O along one arm

Read the scale that starts at O

35°

b)

Less than 90°

acute

10 Amir and Beth share a prize of £360.

Amir gets $\frac{2}{5}$ of the prize. Beth gets the rest.

Beth gives $\frac{1}{4}$ of her share to charity.

Work out how much money Beth keeps.

(4 marks)

Amir's share

$\frac{2}{5}$ of £360 = £144

Beth's share

£360 - £144 = £216

Beth gives away $\frac{1}{4}$ of £216 = £54

Beth keeps £216 - £54 = £162

£162

11 Hana buys a book for £6.95, a pen for £1.80 and a notebook for £2.45. She pays with a £20 note.

How much change does she get?

(3 marks)

6.95 + 1.80 = 8.75

8.75 + 2.45 = 11.20

20.00 - 11.20 = 8.80

£8.80

12 Jack is 1.62 m tall.

Ben is 158 cm tall.

Who is taller, and by how many centimetres?

(2 marks)

Convert to the same units

1.62 m = 162 cm

162 - 158 = 4

Jack is taller, by 4 cm

Jack, by 4 cm

13 The temperature in Cardiff is 3 °C.

The temperature in Oslo is −8 °C.

Work out how many degrees colder Oslo is than Cardiff.

(2 marks)

Difference = 3 - (-8) = 3 + 8

Oslo is 11 degrees colder than Cardiff

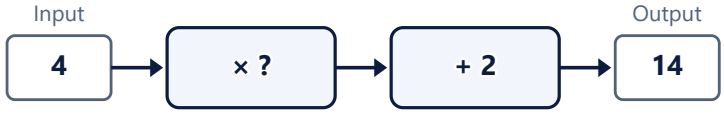
11

14 Here is a number machine with a missing number.

When the input is 4, the output is 14.

a. Work out the missing number in the machine.

b. Use the completed machine to work out the output when the input is 7.



(3 marks)

a) Before the + 2 step the number must be 14 - 2 = 12

a) The input 4 is multiplied to give 12, so the missing number is 12 ÷ 4 = 3

b) 7 x 3 = 21, then 21 + 2 = 23

15 a. Work out $8 + 12 \div 4$

b. Put a pair of brackets in this statement to make it true.
$8 + 12 \div 4 = 5$

c. Put a pair of brackets in this statement to make it true.
$2 + 3 \times 4 - 1 = 19$

(3 marks)

a) Division first

$12 \div 4 = 3$, then $8 + 3 = 11$

b) $(8 + 12) \div 4 = 20 \div 4 = 5$

c) $(2 + 3) \times 4 - 1 = 5 \times 4 - 1 = 20 - 1 = 19$

16 Fill in the missing numbers.

a. $\frac{3}{4} = \frac{?}{12}$

b. $\frac{5}{6} = \frac{20}{?}$

(2 marks)

a)

$4 \times 3 = 12$

$3 \times 3 = 9$

$\boxed{9}$

b)

$5 \times 4 = 20$

$6 \times 4 = 24$

$\boxed{24}$

17 Work out 358×27

(3 marks)

$358 \times 20 = 7160$

$358 \times 7 = 2506$

$7160 + 2506 = 9666$

$\boxed{9666}$

18 $a = 3$ and $b = 5$

a. Work out the value of $2a + b$

b. Work out the value of $3b - a$

(2 marks)

a)

$2a + b = 2 \times 3 + 5$

$= 6 + 5$

$\boxed{11}$

b)

$3b - a = 3 \times 5 - 3$

$= 15 - 3$

$\boxed{12}$

19 Write down the first five multiples of 6.

(2 marks)

6, 12, 18, 24, 30

$\boxed{6, 12, 18, 24, 30}$

20 a. The line x = 5 and the line y = −1 cross at the point P.
Write down the coordinates of P.

b. The line y = x and the line x = 3 cross at the point Q.
Write down the coordinates of Q.

c. Write down the coordinates of the point where the line y = 2 crosses the y-axis.

(3 marks)

Every point on $x = 5$ has x coordinate 5 and every point on $y = -1$ has y coordinate -1, so P is $(5, -1)$

On $y = x$ the two coordinates are equal, so when $x = 3$ the point is $(3, 3)$

On the y-axis the x coordinate is 0, so the line $y = 2$ crosses it at $(0, 2)$