Q1.

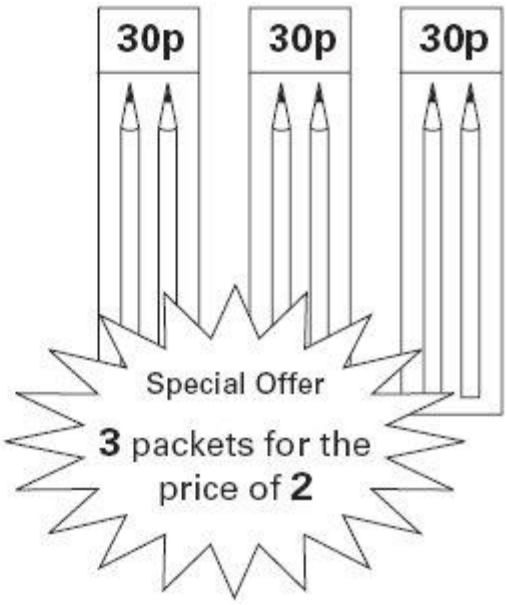
Write the missing numbers in this sequence.

64 32 16 ☐ 4 ☐

1 mark

Q2.

A shop has these special offers.



Joe wants to buy 6 pencils.

Which is the cheaper offer?
Tick (✓) one box.

Half price ☐ 3 for 2 ☐

Explain how you know.

1 mark

Q3.

Kirsty says,

When you double the size of an acute angle, you always get an obtuse angle.

Explain why Kirsty is **not** correct.

1 mark

Q4.

A dragon lived in a cave.

The dragon **doubled** in size every day.

After **20 days** the dragon filled the cave.

After how many days did the dragon **half-fill** the cave?

After ____ days

1 mark

Q5.

A bicycle wheel has a diameter of 64 cm.

What is the **radius** of the bicycle wheel?

____ cm

1 mark

Q6.

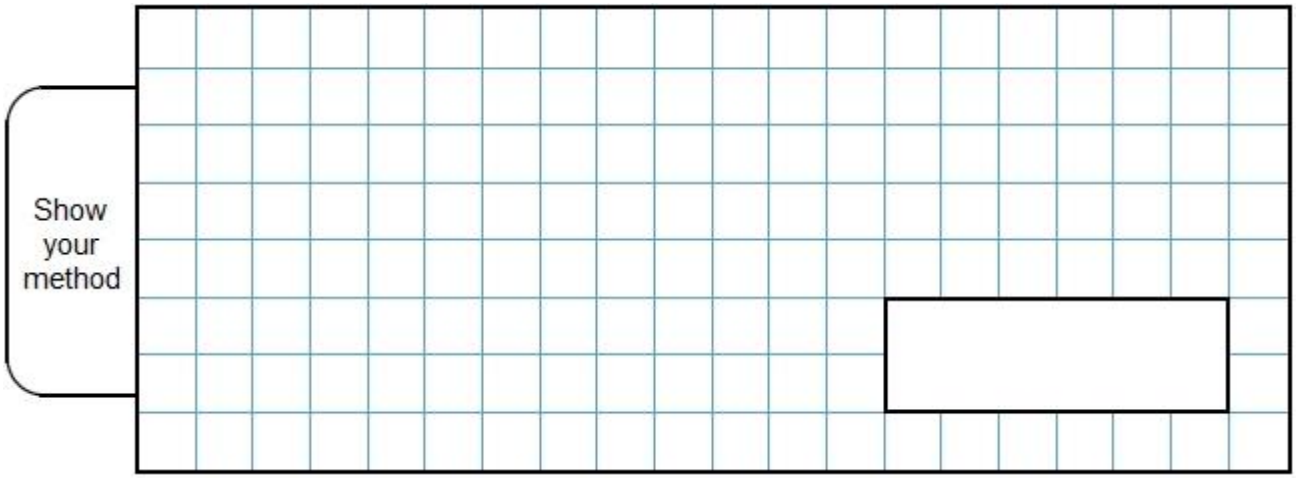
Emily chooses two numbers.

She adds the two numbers together and divides the result by 2

Her answer is 44

One of Emily's numbers is 12

What is Emily's other number?



2 marks

Q7.

Hayley makes a sequence of numbers.

Her rule is

'find half the last number then add 10'

Write in the next two numbers in her sequence.

36 28 24 ☐ ☐

2 marks

Q8.

A torch costs £7.65

Kate buys a torch and **two** batteries.

She pays £8.75 altogether.

How much does **one** battery cost?

Show your method

£

2 marks

Q9.

Seb saved up for a new skateboard that cost £40

The table shows how much money he saved each week.

Week number	1	2	3	4	5	6	7	8	9	10
Amount saved	£5	£4	£2	£4	£3	£4	£6	£4	£3	£5

In which week did Seb reach **half** the amount he needed for the skateboard?

Week

1 mark

If Seb had saved an extra £1 each week, in which week would he have reached his target of £40?

Week

1 mark

Q10.

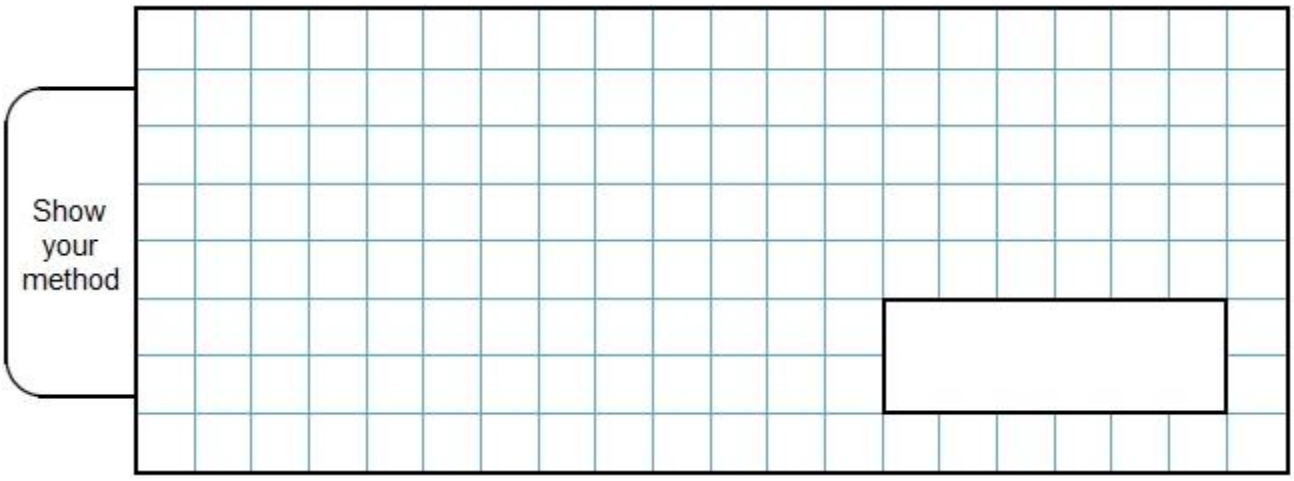
Amy thought of a number.

She added 0.5 to her number and then doubled the result.

Then she subtracted 0.5 and doubled the new result.

Her final answer was 61

What number did Amy start with?



2 marks

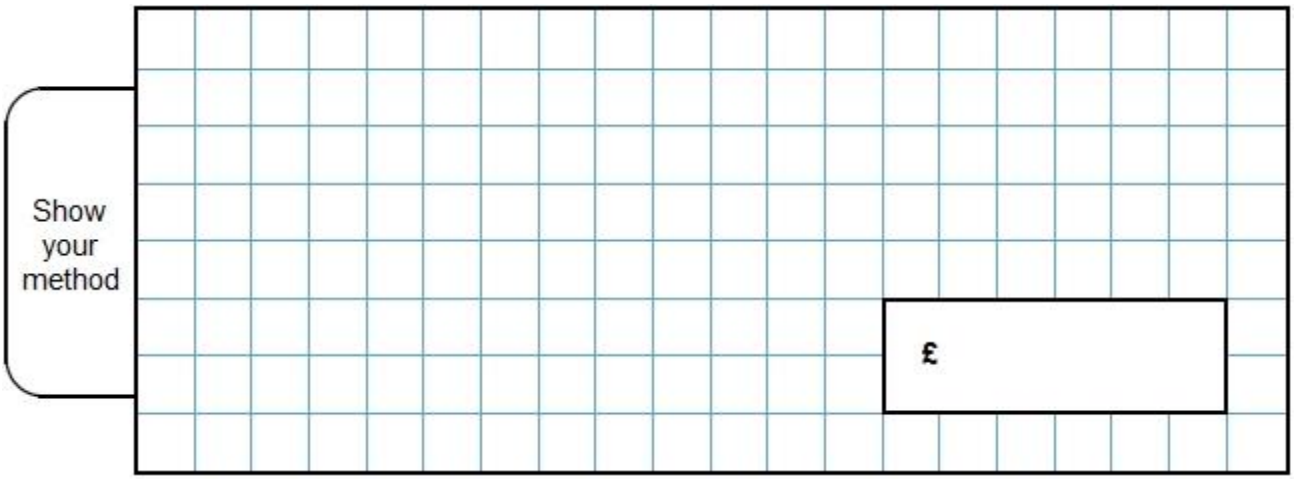
Q11.

Megan and Chen are washing cars.

Megan gets £39 and Chen gets £55

They share what they get **equally** between them.

How much does each of them get?



2 marks

Q12.

The rule to get each number in a sequence is

subtract the previous number from 100, then **divide** the answer by 2

Here is part of the sequence.

Write the two missing numbers.

	40	30	35	32.5	33.75	

2 marks

Q13.

Dev says,

'When you halve any number that ends in 8 the answer always ends in 4'.

Is he correct?

Circle **Yes** or **No**.

Yes / No

Explain how you know.

1 mark

Q1.

Boxes completed as shown:

64 32 16 **8** 4 **2**

***Both** answers must be correct for the award of the mark.*

[1]

Q2.

An explanation which compares prices and which recognises that the 'half price' cost is less than the '3 for 2' cost, eg

- 'The half price offer costs 40p, the other offer costs 60p so the half price one is 20p cheaper';
- 'I know because 40p is less than 60p';
- 'The half price offer costs 20p less'.

(Although the child has not stated the cost of each offer, we can assume that the child must have calculated them to reach this conclusion.)

***Do not** award the mark for ticking the 'Half price' box alone.*

***Do not** accept an explanation which compares pencils rather than prices, eg*

- *'I think because there are more pencils in the half price than the 3 for 2';*
- *'Because you only get 2 in a packet and so the half price one is better'.*

Also accept:

- Half price | 40p | ✓ | 3 for 2 | 60p |

The prices must be stated **AND** the 'half price' offer indicated.
(Although this is not the preferred form of response, the child has clearly communicated their understanding.)

***Do not** accept an explanation which compares prices incorrectly, eg*

- *'Because the half price ones are 40p and the 3 for 2 ones are 90p'*
  (This shows that the child has not understood the concept of 3 for 2).

***Do not** accept an explanation which is vague or arbitrary, eg*

- *'One pack of pencils costs less'.*

***Award** the mark if the '3 for 2' box is ticked **OR** neither box is ticked provided a correct unambiguous explanation is given.*

U1

[1]

Q3.

An explanation that includes a correct counter example, e.g.

- When you double 10° it is not obtuse
- 2 × 27° = 54°
- Double 45° is a right angle not obtuse

OR

An explanation that demonstrates where the statement in the question is not correct, e.g.

- If the acute angle is less than 45° then doubling it will be less than 90°, so it won't be obtuse (more than 90°).

***Do not** accept vague or incomplete explanations, e.g.*

- *Sometimes it will be acute*
- *Some acute angles are half an obtuse angle, but not all*
- *When you double an acute angle, you get a right angle*

***Do not** accept explanations which include incorrect mathematics or incorrect information that is relevant to the explanation, e.g.*

- *20°C × 2 = 40°C*
- *20% × 2 = 40%*

[1]

Q4.

19

U1

[1]

Q5.

32

[1]

Q6.

Award **TWO** marks for the correct answer of 76

If the answer is incorrect, award **ONE** mark for evidence of appropriate method, eg
44 × 2 = 88
88 – 12

*Answer need not be obtained for the award of **ONE** mark.*

Up to 2

[2]

Q7.

Award **TWO** marks for the correct answer of

22	AND	21

If the answer is incorrect, award **ONE** mark for

either
22 in the first box
or
a number in the second box, which is 10 more than half the answer given in the first box.

Numbers must be in the correct order.

Up to 2

[2]

Q8.

Award **TWO** marks for the correct answer of 55p **OR** £0.55

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg 8.75 – 7.65 = 1.10

1.10 ÷ 2 = wrong answer

*Accept: for **ONE** mark £55 OR £55p **OR** 0.55p as evidence of appropriate working.*

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2

[2]

Q9.

6

1

8

1
U1

[2]

Q10.

Award **TWO** marks for the correct answer of 15

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg:

- 61 ÷ 2 = 30.5

  30.5 + 0.5 = 31

  31 ÷ 2 = 15.5

  15.5 − 0.5 = wrong answer

OR

- 61 ÷ 2 = 30.5

30.5 – 0.5 = 30 (step error)

30 ÷ 2 = 15

15 − 0.5 = 14.5 (wrong answer)

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2m

[2]

Q11.

Award **TWO** marks for a correct answer of £47.

If the answer is incorrect, award **ONE** mark for evidence of appropriate working, eg

£39 + £55 = £94

£94 ÷ 2 = wrong answer

*Working must be carried through to reach an answer for the award of **ONE** mark.*

Up to 2

[2]

Q12.

20

1

33.125

Accept equivalent fractions or decimals

1
U1

[2]

Q13.

An explanation which gives a counter-example to illustrate that halving a number that ends in 8 does not always give a number ending in 4, eg:

- ’18 doesn’t work’
- ‘It could end in a 9’
- ‘Double 49 is 98’
- ’58 ÷ 2 = 29’
- ‘Half of 8 is 4 but half of 18 doesn’t end in 4’
- ’18, 28, 38, 48, 58, 68 – only half of them work’
- ‘It has to have an even number of 10s, like 28 or 88’

- ‘38’

No mark is awarded for circling ‘No’ alone.

***Do not** accept vague or incomplete explanations, eg:*

- *‘Half of them don’t’*
- *‘Half of 28 is 14’*
- *‘Double 44 is 88’*

If ‘Yes’ is circled but a correct, unambiguous explanation is given, then award the mark.

U1

[1]