Q1.

Dev thinks of a **whole** number.

He multiplies it by 4

He rounds his answer to the nearest 10

The result is 50

Write **all** the possible numbers that Dev could have started with.

_____

2 marks

Q2.

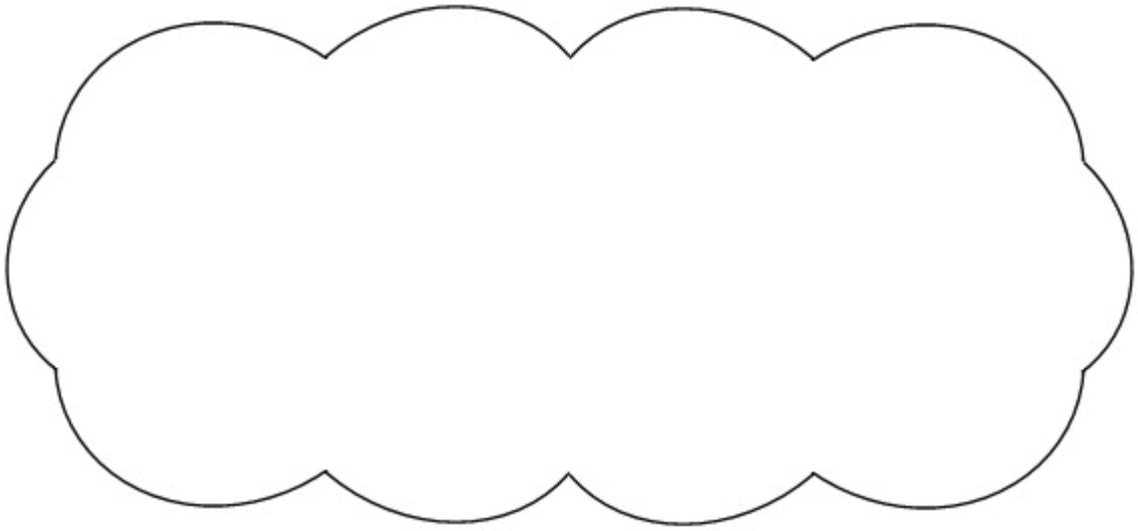
Adam buys **6** bags of white balloons.

Chen buys **3** bags of red balloons.

Adam says,

'I have four times as many balloons as Chen.'

Explain why Adam is correct.



1 mark

Q3.

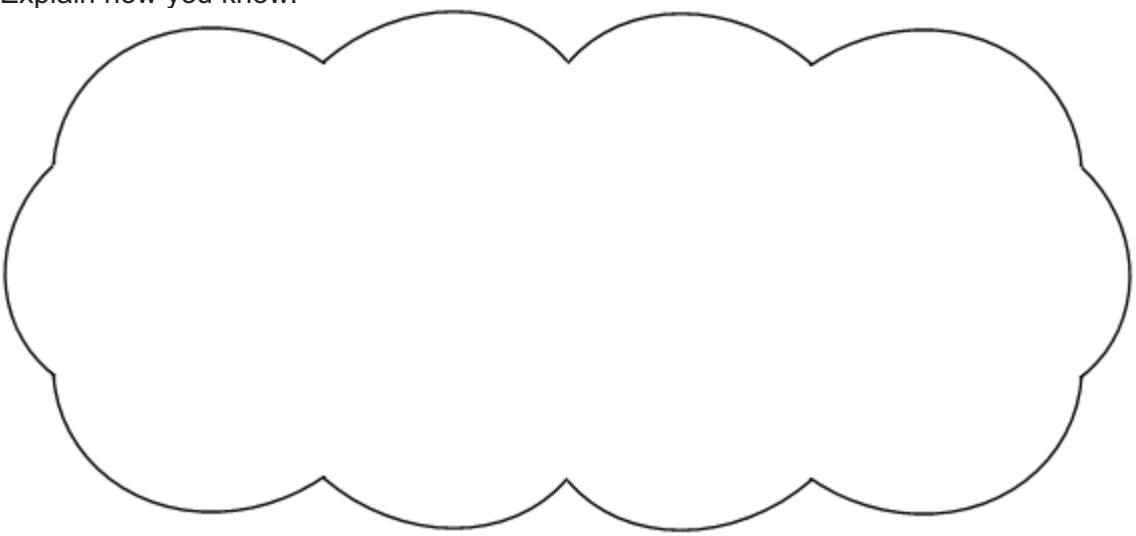
Alfie says,

'When you multiply two numbers together, the answer is always greater than either of the numbers you started with.'

Is Alfie correct?
Circle **Yes** or **No**.

Yes / No

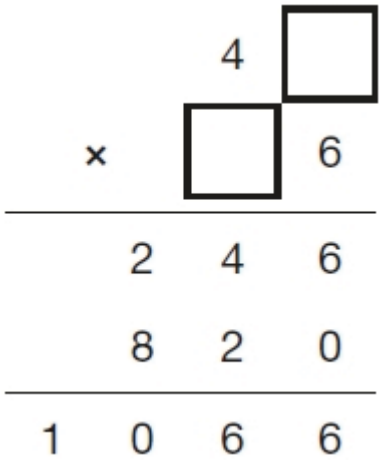
Explain how you know.



1 mark

Q4.

Write the two missing digits to make this **long multiplication** correct.



2 marks

Q5.

Hassan scores 40 out of 80 in a test.

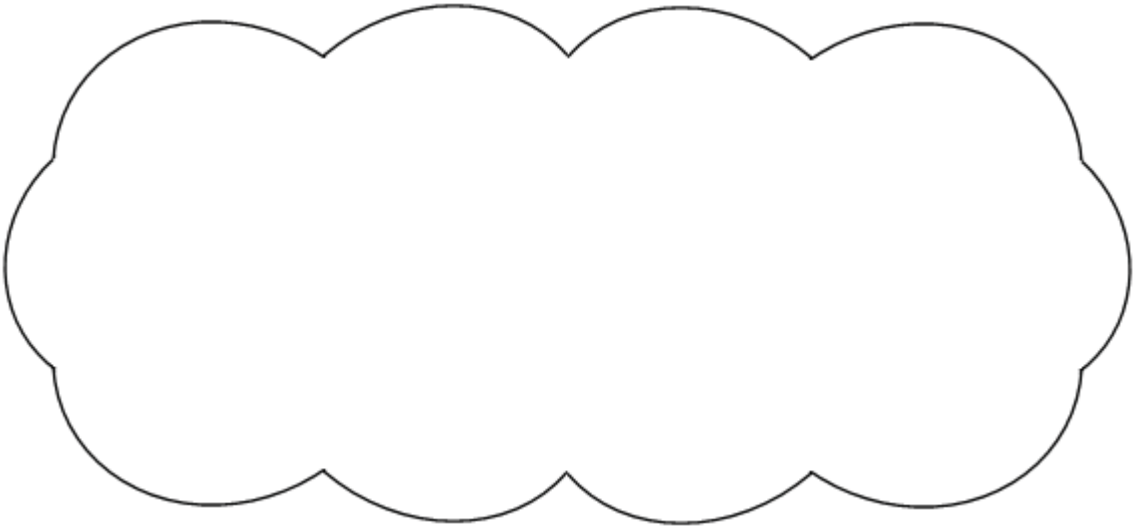
Kate scores 40% in the same test.

Who has the higher score?

Circle **Hassan** or **Kate**.

Hassan / Kate

Explain how you know.



1 mark

Q6.

Amy did a survey of what time people get up on a Sunday morning.
This table shows her results for 150 people.

Time	number of people
before 7 am	13
7:00 am to 7:59 am	28
8:00 am to 8:59 am	59
9:00 am to 9:59 am	36
10 am and after	14

Look at the table.

How many people get up at **8 am or later**?

1 mark

Amy says,

'Two-thirds of the 150 people in the survey get up before 9 am.'

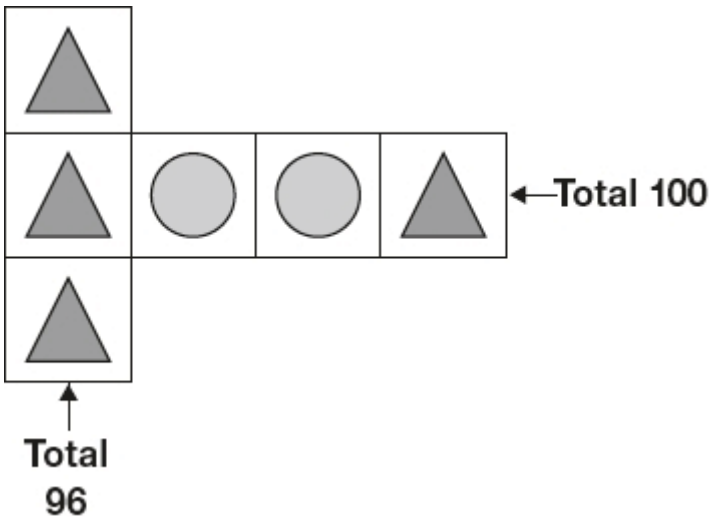
Amy is correct.

Explain how you know.

1 mark

Q7.

Each shape stands for a number.



Work out the **value** of each shape.

 = _____

1 mark

 = _____

1 mark

M1.

Award **TWO** marks for 12 **AND** 13

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

- only one correct number and no incorrect number

OR

- 12 **AND** 13 **AND** not more than one incorrect number.

*Accept for **ONE** mark an answer of 48 **AND** 52 **AND** no more than one incorrect number.*

Up to 2m

[2]

M2.

An explanation that shows Adam has four times as many balloons as Chen, e.g.

- 24 × 6 is 4 times as many as 12 × 3
- 144 is four times 36
- 144 ÷ 4 = 36
- 144 ÷ 36 = 4
- 36 × 4 = 144
- Adam buys twice as many bags of twice as many balloons, so it's doubled twice
- 24 is double 12 and 6 is double 3, so it's doubled twice
- Chen buys half the amount of bags and each bag has half the number of balloons, so he has $\frac{1}{4}$ of the amount.

***Do not** accept vague or incomplete explanations, e.g.*
- *Adam buys more bags and there are more balloons in each bag*
- *Adam buys twice as many bags of twice as many balloons*
- *24 is double 12 and 6 is double 3.*

[1]

M3. A counter-example or an explanation that shows Alfie is incorrect, eg:

- 'It doesn't work when one of the numbers is 1'

No mark is awarded for circling 'No' alone.

***Do not** accept vague or incomplete explanations, eg:*
- *'It's not always true'*
- *'It doesn't work when **one** of the numbers is small'*

- '1 × 99 = 99, and 99 is not less than 99'

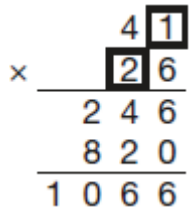
- ‘It’s not true for zero’
- ‘0 × 5 = 0, and 0 is less than 5’
- ‘It doesn’t work for fractions less than 1’
- ‘0.5 × 8 = 4, and 4 is less than 8’
- ‘If one number is negative and the other is positive, the answer is negative’

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

U1

[1]

M4. Award **TWO** marks for both digits correct, as shown:



If the answer is incorrect, award **ONE** mark for one digit correct.

Up to 2

[2]

M5. An explanation which correctly compares two percentages or two scores, eg:

- ‘40 out of 80 is 50%’
- ‘50% is more than 40%’
- ‘40% of 80 is 32’
- ‘40 out of 80 is better than 40 out of 100’
- ‘40 out of 80 is more than 32 out of 80’
- ‘Kate has less than half marks’.

No mark is awarded for circling ‘Hassan’ alone.

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

- *‘Hassan has half marks’*
- *‘Percentages are bigger’*

- *'Hassan has more than 40%'*
- *'Kate has less than 40 out of 80'.*

If 'Kate' is circled but a correct unambiguous explanation is given, then award the mark.

U1

[1]

M6. (a) 109

1

(b) An explanation that recognises that 100 people get up before 9am which is two-thirds of the total (150).

- '13 + 28 + 59 = 100 which is two-thirds of the total'
- '$\frac{1}{3}$ of 150 = 50 and 2 × 50 = 100'
- '$\frac{2}{3}$ of 150 is 100'
- '36 + 14 = 50 which is one-third after 9am'

  Do not *accept vague or incomplete explanations, eg:*
  - *'One-third are 9 o'clock or later'*
  - *'100 got up at 9am'*
  - *'Twice as many got up before 9am.'*
  - *'13 + 28 + 59 = 100'*

U1

[2]

M7.

(a)  = 32

1

(b)  = 18

*If the answers to ○ and △ are incorrect, award **ONE** mark if*
△ + ○ = 50 unless ○ = 25

1

[2]