Percentages of amounts

3 Use the bar models to help you complete the calculations.

a)

? |——————|

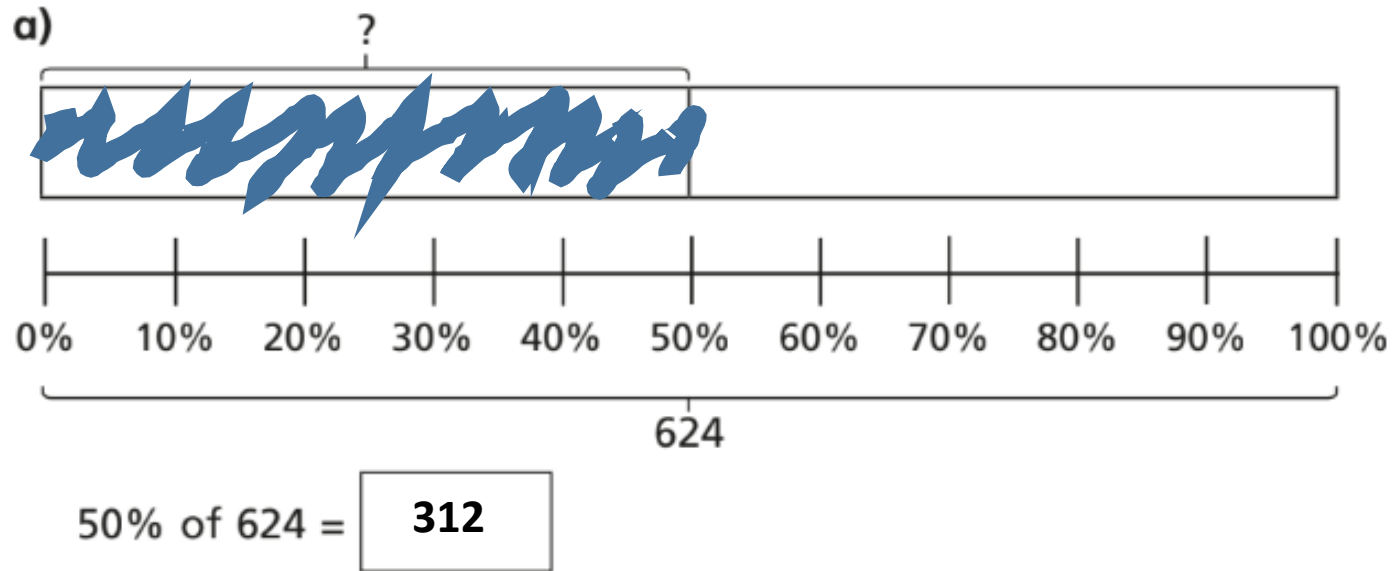| 0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100% |

624
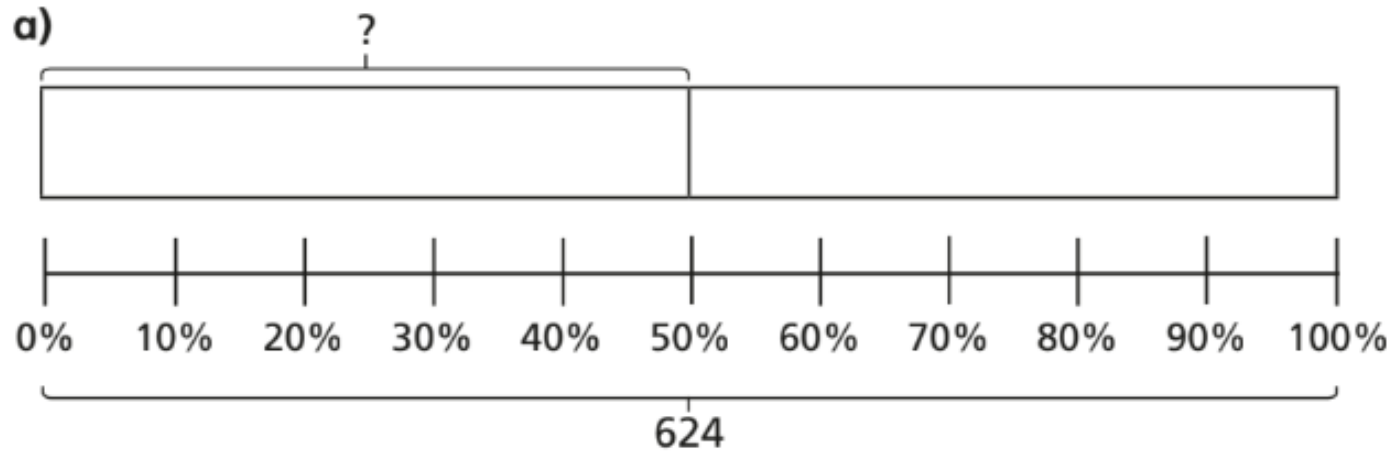
50% of 624 = [ ]

Drawing a bar model, even a rough one by hand can be really useful for solving percentage problems.

Can you remember two of the methods for finding 50%?

Answer on the next page

3 Use the bar models to help you complete the calculations.

a)

?

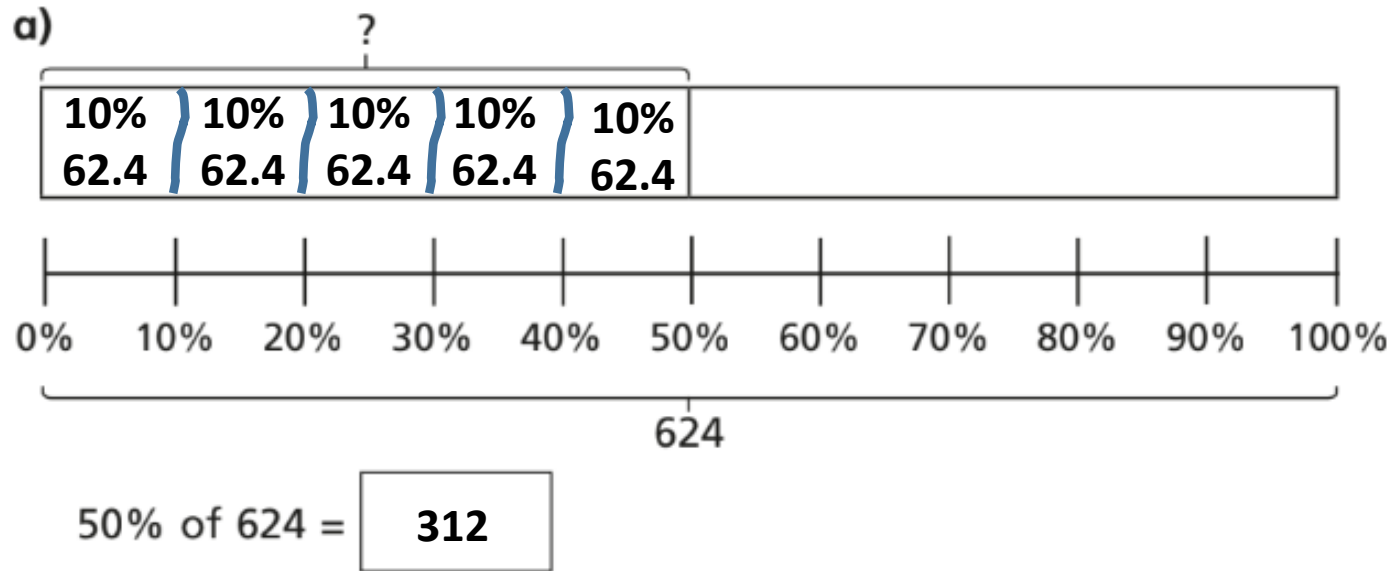|0% | 10% | 20% | 30% | 40% | 50% | 60% | 70% | 80% | 90% | 100%|

624

50% of 624 = 312

Drawing a bar model, even a rough one by hand can be really useful for solving percentage problems.

Can you remember two of the methods for finding 50%?

The bar model shows that 50% is **half** of the whole (100%). In the case of this question, the whole value is **624**

If we half the percentage, we also need to half the number so 624 ÷ 2 = 312

3 Use the bar models to help you complete the calculations.

a)

? (spanning 5 sections of 10%)

10%	10%	10%	10%	10%
62.4	62.4	62.4	62.4	62.4

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

624

50% of 624 = 312

Drawing a bar model, even a rough one by hand can be really useful for solving percentage problems.

Can you remember two of the methods for finding 50%?

We can also easily find **10%** by dividing the whole number by 10.
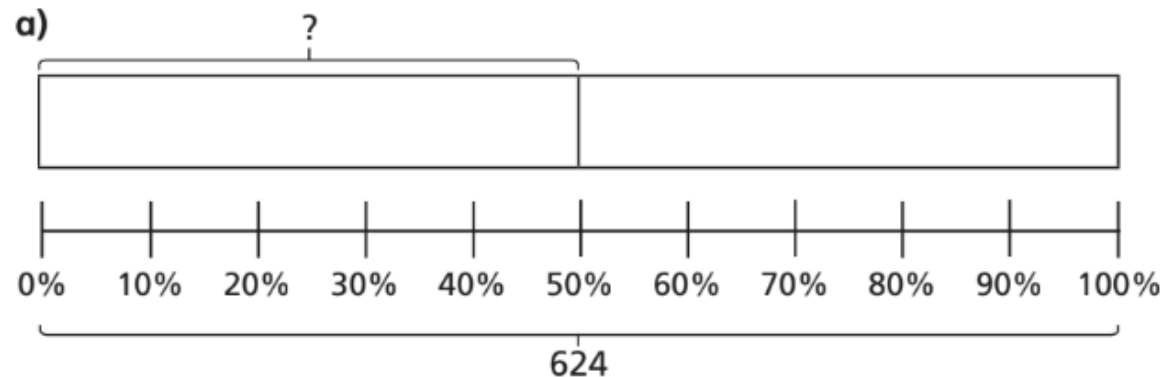That means that 10% = 62.4
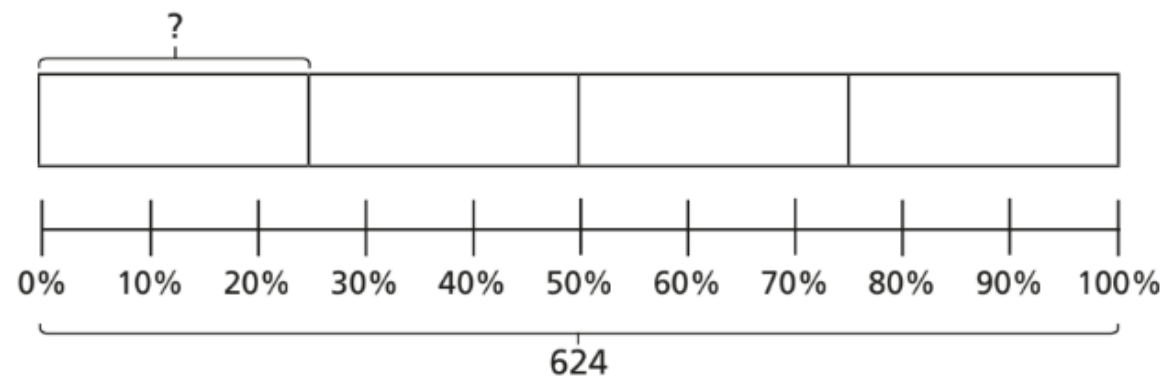Our bar model shows that there are 5 lots of 10% in 50% so we can do
62.4 x 5 = 312

3 Use the bar models to help you complete the calculations.

a)

50% of 624 = ☐

25% of 624 = ☐

What do you notice about your answers?

What different methods do we have for finding percentages?

- How could you find 25% of 200?

- See the examples on the next page when you've had a go

What different methods do we have for finding percentages?

- How could you find 25% of 200?

- 25% is the same as ÷ 4 so   100 ÷ 4 = 50

- You could find 10% (20), multiply it by 2 (40) and add 5% (10) = 50

- You could find 50% (100) and ÷ 2 = 50

- You could find 1% (divide by 100 = 2) and multiply it by 25 = 50

- There's loads of options!

What different methods do we have for finding percentages?

- How could you find 31% of 300?

- See the examples on the next page when you've had a go

What different methods do we have for finding percentages?

- How could you find 31% of 300?

- You could find 10% (30) and multiply it by 3, giving you 30% = 90.
- For the 1%, divide 300 by 100 = 3

- Add together your 30% + 1% = 31%   so   90 + 3 = 93

- Did you find any other ways?

Using a bar model to find the missing whole

① Complete the bar models to find the missing numbers.

a) 25% of [ ] = 342
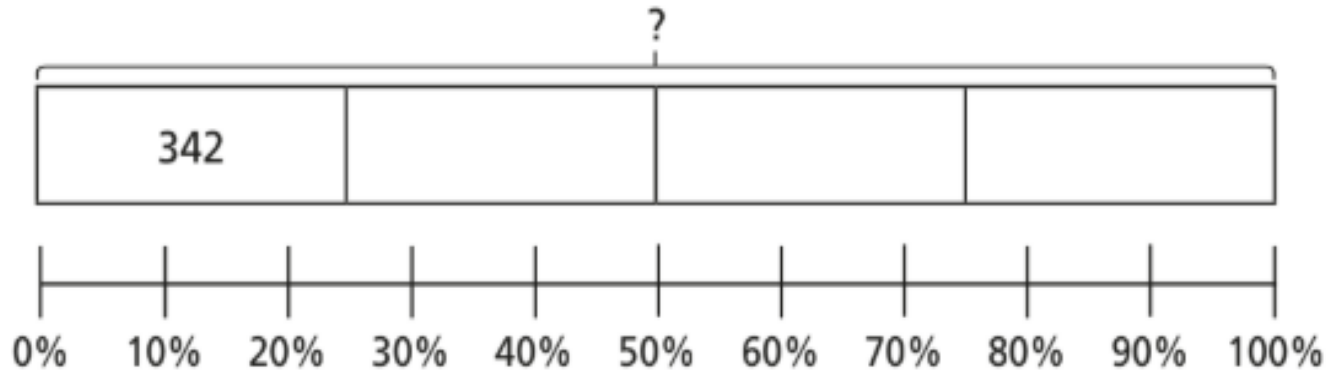
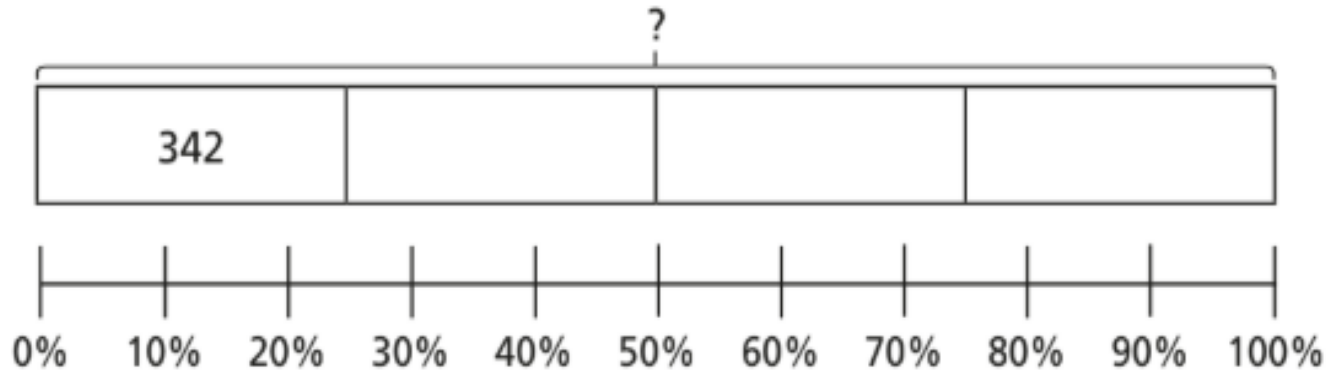In this question, we are doing the reverse. We actually know what 25% is – we need to find out the total.

The bar shows that 25% of our mystery total = 342

Have a go at this, the method is on the next page

Using a bar model to find the missing whole

1 Complete the bar models to find the missing numbers.

a) 25% of [ ] = 342

In this question, we are doing the reverse. We actually know what 25% is – we need to find out the total.

The bar shows that 25% of our mystery total = 342

?

| 342 | | | |

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

Using a bar model to find the missing whole

1 Complete the bar models to find the missing numbers.

a) 25% of [   ] = 342

?

| 342 | 342 | 342 | 342 |

0%   10%   20%   30%   40%   50%   60%   70%   80%   90%   100%

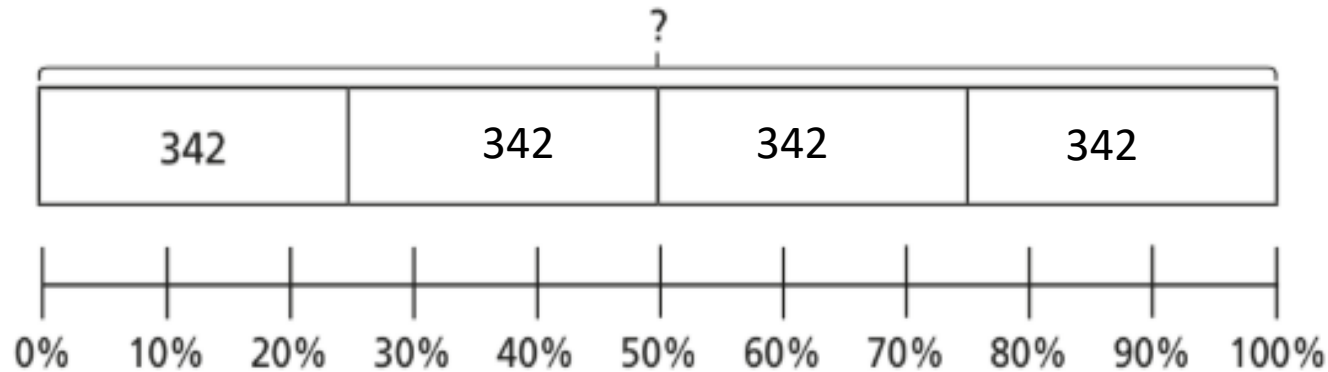In the bar, the blocks are all the same size (25%) so we know they must all be worth 342

In this question, we are doing the reverse. We actually know what 25% is – we need to find out the total.

The bar shows that 25% of our mystery total = 342

We are aiming to work out 100%.

If we know 25% we can multiply this by 4.

25% x 4 = 100%   therefore

342 x 4 = 1368

You can use your knowledge of equivalent fraction to check this too – what is 25% as a fraction?

1) Use the bar models to help answer the following questions.

a) 18 is 10% of what number?

Total = _____

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

18

When the bar model shows 10% of a number, how does this help us to find the value of the whole?
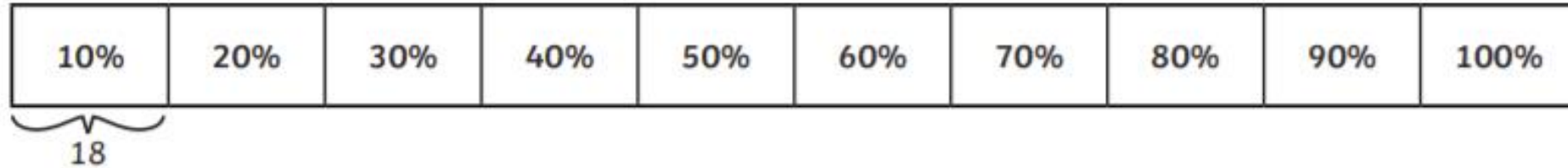
_____

_____

- Have a go at this, method on the next page

1) Use the bar models to help answer the following questions.

a) 18 is 10% of what number?

Total = _____

10%	20%	30%	40%	50%	60%	70%	80%	90%	100%

18

When the bar model shows 10% of a number, how does this help us to find the value of the whole?

_____

_____

- We know that 10% = 18

- So: 10% x 10 = 100% and 18 x 10 = 180

- Remember that we need to find 100%, and whatever you do to the percentage, you need to do to the value too.

3) Before travelling, Anna separated her money evenly into different bags. Each bag contained 20% of her money. 2 of Anna's bags have a combined total of £24. How much money has Anna got altogether?

_____

_____

- Try this question and then check on the next page

3) Before travelling, Anna separated her money evenly into different bags. Each bag contained 20% of her money. 2 of Anna's bags have a combined total of £24. How much money has Anna got altogether?
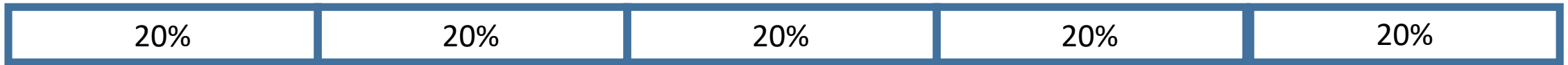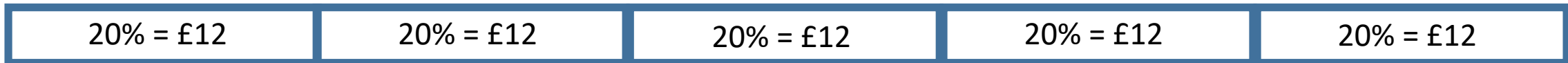
_____

_____

- 20% of her 100% money went into each bag so Anna had 5 bags

20%	20%	20%	20%	20%

-- 100% --

2 bags = £24

This means that 40% = £24. Therefore, 1 bag has £12.

20% = £12	20% = £12	20% = £12	20% = £12	20% = £12

-- 100% = £60 --