

Lesson 15 – Percentage of an Amount

Starter

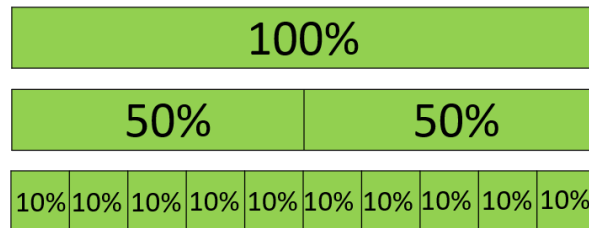
- 1) $\frac{3}{5}$ of 20
- 2) What is the value of the 6 in the number 5.768?
- 3) Write 30 as a percentage of 40
- 4) Write 12 as a fraction of 8

Starter Answers

- 1) 12 2) 6 hundredths 3) 75% 4) $\frac{12}{8} = \frac{6}{4} = \frac{3}{2}$

We can see that there are two 50%'s in 100%, so to find 50% we can divide the number by 2.

We can also see there are ten 10%'s in 100%, so to find 10% we can divide the number by 10.



How could we find 20%? Is there more than one way?

There are five 20%'s in 100%, so we could divide the number by 5.

Alternatively, we could divide by 10 to get 10%, then multiply this by 2 to get 20%.

Example 1

Find 30% of 50.

We can use a proportion table:

50 represents the whole amount, so we start by saying 100% is 50.

Answer = 15

	Proportion	Amount	
÷10	100%	50	÷10
	10%	5	
x3	30%	15	x3

Example 2

Find 40% of 12

12 is the whole amount, so we say that 100% is 12

To find 40% we need to multiply 1.2 by 4. To do this we could do $1.2 + 1.2 + 1.2 + 1.2$

Answer = 4.8

	Proportion	Amount	
÷10	100%	12	÷10
	10%	1.2	
x4	40%	4.8	x4

Your go

Find:

1) 10% of 120

2) 30% of 70

3) 40% of 35

Answers

1) 12

2) 21

3) 14

Example 3

Find 5% of 80

The whole amount is 80, so 100% is 80.

There are two 5%'s in 10%, so we can divide 10% by 2 to find 5%.

Answer = 4

Proportion	Amount
100%	80
10%	8
5%	4

Diagram annotations: A bracket on the left side of the table spans from 100% to 10% with $\div 10$ written next to it. Another bracket on the left side spans from 10% to 5% with $\div 2$ written next to it. Similar brackets are on the right side of the table.

Example 4

Find 45% of 70

To make 45%, we can add together 40% and 5%.

40% is 28 and 5% is 3.5

So, 45% is $28 + 3.5 = 31.5$

Proportion	Amount
100%	70
10%	7
40%	28
5%	3.5

Diagram annotations: A bracket on the left side of the table spans from 100% to 10% with $\div 10$ written next to it. Another bracket on the left side spans from 10% to 40% with $\times 4$ written next to it. A third bracket on the left side spans from 10% to 5% with $\div 2$ written next to it. Similar brackets are on the right side of the table.

Your go

Find

1) 5% of 140

2) 15% of 60

3) 85% of 30

Answers

1) 7

2) 9

3) 25.5

Example 5

Find 1% of 80

There are ten 1%'s in 10% so to find 1%, we can divide 10% by 10.

Alternatively, we could divide 100% by 100.

Answer = 0.8

Proportion	Amount
100%	80
10%	8
1%	0.8

Diagram annotations: A bracket on the left side of the table spans from 100% to 10% with $\div 10$ written next to it. Another bracket on the left side spans from 10% to 1% with $\div 10$ written next to it. Similar brackets are on the right side of the table.

Example 6

Find 28% of 800

To make 28%, we can add together
20% and 8%

20% is 160 and 8% is 64

So, 28% is $160 + 64 = 224$

Answer = 224

Proportion	Amount
100%	800
10%	80
1%	8
20%	160
8%	64

Annotations: $\div 10$ (between 100% and 10%), $\div 10$ (between 10% and 1%), $\div 10$ (between 800 and 80), $\div 10$ (between 80 and 8), $10\% \times 2$ (next to 160), $1\% \times 8$ (next to 64).

Your go

Find

1) 3% of 600

2) 18% of 600

3) 36% of 120

Answers

1) 18

2) 108

3) 43.2