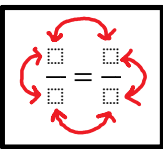


$$\frac{IS}{OF} = \frac{\%}{100}$$



Calculator!
Fractions/LCD
Cross Multiply
Long Division

M8 - 4.0 - Percentage/Decimals Review

What is 170 out of 200 as a percentage?

1

$$\frac{IS}{OF} = \frac{\%}{100}$$

↑ Total

Over = Over

$$\frac{170}{200} = \frac{\%}{100}$$

$$\frac{170}{200} = \frac{85}{100}$$

$$\frac{170}{200} = 0.85$$

% = 85%

Decimal <-> Fraction

$$\frac{1}{10} = 0.1$$

$$\frac{23}{100} = 0.23$$

$$\frac{45}{1000} = 0.045$$

$$\frac{3}{9} = 0.\bar{3}$$

$$\frac{45}{99} = 0.\overline{45}$$

30 is 15% of what?

x = 200

$$\frac{30}{x} = \frac{15}{100}$$

$$\frac{30}{200} = 0.15$$

If you don't know just divide!
Bigger divided by Smaller!

Decimal <-> Percentage

× 100 → Move decimal 2 places to the right.

0.0073 = 0.73%
0.05 = 5%
0.1 = 10%
0.12 = 12%
0.3 = 33.3%
0.5 = 50%
0.66 = 66.67%

0.1 = 10%
0.3 = 33.3%
0.5 = 50%

One Decimal
Two Decimal

%

← **÷ 100** Move decimal 2 places to the left.

Find 15% of 200.

x = 30

$$\frac{x}{200} = \frac{15}{100}$$

30 / 200 = 0.15 Check!

Cross Multiply

$$\frac{x}{200} = \frac{15}{100}$$

$$100x = 3000$$

$$\frac{100x}{100} = \frac{3000}{100}$$

x = 30

Rounding

Less than 5 Round Down

5.7④ = 5.7 Round To Tenths

5.7⑥ = 5.8

5 or More Round Up

Increase 200 by 15%

15% = 0.15

200 × 0.15 = 30

200 + 30 = **230**

Logic!

Multiply by the decimal

Then Add (Or Subtract*)

2 OR

200 × 1.15 = **230**

Multiply by the % you want to be!

2a

Check!

$$\frac{230}{200} = 1.15$$

$M = 1 + 0.15$
 $M = 1.15$

Multiplier = $1 \pm r$
 $M = 1 \pm r$

Initial × Multiplier = Final

Decrease 200 by 15%

200 × 0.15 = 30

200 - 30 = **170**

OR

$M = 1 - 0.15$
 $M = 0.85$

200 × 0.85 = **170**

Find a number decreased by 15% to be 170

3

x = 200

$$\frac{170}{x} = \frac{85}{100}$$

$x \times 0.85 = 170$
 $0.85x = 170$
 $\frac{0.85x}{0.85} = \frac{170}{0.85}$
 $x = 200$

$M = 100 - 15 = 85\% = 0.85$

Find the Percent Change increase from 200 to 230.

4

$$\%Change = \frac{Final - Initial}{Initial}$$

$$\%Change = \frac{230 - 200}{200} = \frac{30}{200} = 0.15 = 15\%$$

Jack ate 30 more, 15% more than Jill. How many did Jack eat!

5

$$\frac{j + 30}{j} = \frac{115}{100}$$

100(j + 30) = 115j
100j + 3000 = 115j
3000 = 15j
Algebra M810

let j = #jill ate

j = 200

200 + 30 = 230

Jack ate 230!

$M = 1 + 0.15 = 115\%$