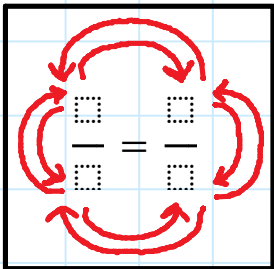


M8 - 2.1 - Equal Fraction Notes

Over = Over

$$\frac{\square}{\square} = \frac{\square}{\square}$$

Do to Top/Do to Bottom
Do to Left/Do to Right



One over two equals what over 4?

$$\frac{1}{2} = \frac{?}{4}$$

$\times 2$
 $\frac{1}{2} = \frac{2}{4}$
 $\times 2$

Multiply bottom by 2
Multiply top by 2

$? = 2$ $1 \times 2 = 2$

One over three equals what over 6?

Set it up!

$$\frac{1}{3} = \frac{x}{6}$$

$x = 1 \times 2 = 2$

$x = 2$

? or x
Does it matter
No!

#:# Or Ratios
#:# Ratios

Direction Matters

Multiply in one direction
Divide in other direction

$$\frac{1}{2} = \frac{2}{4}$$

$\times 2$
 $\div 2$

Get an LCD!

$$\frac{1}{2} = \frac{x}{4}$$

$2 \times \frac{1}{2} = \frac{x}{4}$

$2 \times 2 = \frac{x}{4}$

$\frac{4}{4} = \frac{x}{4}$

LCD

$x = 2$

Five over twenty equals one over what?

I'm not afraid to work on the bottom of the fraction!

$$\frac{5}{20} = \frac{1}{x}$$

$\div 5$

$$\frac{5}{20} = \frac{1}{4}$$

$\div 5$

$x = 4$

Divide top by 5
Divide bottom by 5

$20 \div 5 = 4$

Ratios Too!

$\times 2$ $1:2$ $\times 2$
 $2:4$

Same Rules!

Three over five equals what over twelve?

$$\frac{3}{5} = \frac{x}{12}$$

$\times 2.4$

$$\frac{3}{5} = \frac{7.2}{12}$$

$\times 2.4$

$x = 7.2$

Multiply bottom by 2.4
Multiply top by 2.4

$3 \times 2.4 = 7.2$

$\frac{12}{5} = 2.4$

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

Bottom goes into Top

Bottom | Top

$$\begin{array}{r} 2.4 \\ 5 \overline{) 12.0} \\ \underline{- 10} \\ 20 \\ \underline{- 20} \\ 0 \end{array}$$

$$\begin{array}{r} 1.66 \dots \\ 3 \overline{) 5.00} \\ \underline{- 3} \\ 20 \\ \underline{- 18} \\ 20 \text{ (Repeat)} \end{array}$$

OR!

Multiply left in down by 2
Divide right in up by 2

$x = 7.2$

$\times 1.\bar{6}$ $\frac{3}{5} = \frac{x}{12}$ $\div 1.\bar{6}$

$\frac{5}{3} = 1.\bar{6}$

Calculator $1.\bar{6} = 1.666666\dots$