

(9 Lines each)

Finding a Missing Number in Percent Problems.

Find Percent (%)

What Percent of 2,000 is 204?

① Cross Multiply & Divide

$$\frac{x}{100} = \frac{204}{2,000} \div 2,000$$

* When you multiply by 100 all you have to do is add the zeros to the end of your number. 204 = 20,400

$$\begin{array}{r} 10.2 \\ 2,000 \overline{) 20,400.0} \\ \underline{-20,000} \\ 400 \\ \underline{-0} \\ 4000 \end{array}$$

X = 10.2%

② $\frac{x}{100} = \frac{204}{2,000}$
Arrows: $\div 20$ (pointing left), $\times 20$ (pointing right)

* Always point the ~~star~~ arrow towards the X.

$$\begin{array}{r} 10.2 \\ 20 \overline{) 204.0} \\ \underline{20} \\ 004 \\ \underline{-0} \\ 40 \\ \underline{-40} \\ 00 \end{array}$$

* Big Number \rightarrow Small Number *
Divide

* Small Number \rightarrow Big Number *
Multiply

Find Part (IS)

30% of 20 is What Number?

① Cross Multiply & Divide

$$\frac{30}{100} = \frac{x}{20} \quad \begin{array}{r} 30 \\ \times 20 \\ \hline 600 \\ 600 \\ \hline 6000 \end{array} \quad \begin{array}{r} 6 \\ 100 \overline{) 6000} \\ \underline{-600} \\ 000 \end{array}$$

* When you divide by 100 ALL you need to do is move the decimal 2 dp to the LEFT. * 6000 = 60 X = 6

② $\frac{30}{100} = \frac{x}{20}$
Arrows: $\div 5$ (pointing left), $\times 5$ (pointing right)

$$\begin{array}{r} 6 \\ 5 \overline{) 30} \\ \underline{-30} \\ 00 \end{array} \quad \mathbf{X = 6}$$

* Always point Arrow towards the X. * Big # \rightarrow Small # \div

③ Change the percent to a Decimal and Multiply.
30% = 0.30

$$\begin{array}{r} 0.30 2 \\ \times 20 0 \\ \hline 000 2 \\ 0600 \\ \hline 06000 \end{array} = \mathbf{X = 6}$$

* To change a percent to Decimal Move 2 dp to the LEFT!

Find Whole (OF)

20% of what Number is 66?

① Cross Multiply & Divide

$$\frac{22}{100} = \frac{66}{x} \div 22$$

* When you multiply by 100 all you have to do is add the zeros to the end of your Number. 66 = 6,600

$$\begin{array}{r} 300 \\ 22 \overline{) 6600} \\ \underline{-660} \\ 000 \\ \underline{-0} \\ 0000 \\ \underline{-0} \\ 0000 \end{array}$$

② $\frac{22}{100} = \frac{66}{x}$
Arrows: $\times 3$ (pointing left), $\div 3$ (pointing right)

$$\frac{100}{x} \times 3 = 300$$

* Always point the Arrow towards the X.

* Small Number to Big Number you Multiply.

Percent % = $\frac{IS (part)}{OF (whole)}$

*