Percent Explanations

The basic equation of percents:

$$\frac{Part}{Base} = \frac{Rate\%}{100}$$

Abbreviated form:

$$\frac{P}{B} = \frac{R\%}{100}$$

Example:

$$\frac{7}{8} = \frac{87.5\%}{100}$$

To find out if this right:

Check for equivalence:

$$\left.\begin{array}{l} 7 \times 100 = 700 \\ 8 \times 87.5 = 700 \end{array}\right\} \text{ Equivalent}$$

For percent problems, there are three elements:

$$P$$

$$B$$

$$R\%$$

To work a percent problem, you must know <u>two</u> of these, then <u>solve for the third</u>.

To solve for P:

$$P = \frac{B \times R\%}{100}$$

To solve for B:

$$B = \frac{P \times 100}{R\%}$$

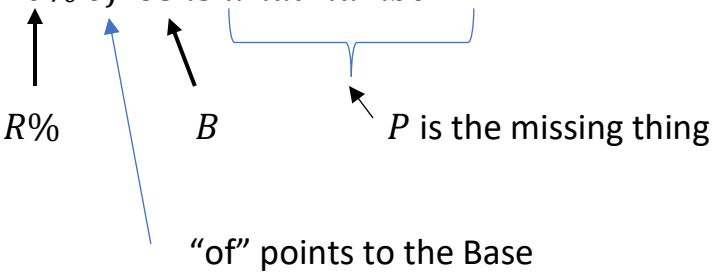
To find R%:

$$R\% = \frac{P \times 100}{B}$$

Examples:

To solve for P:

$40\%\ of\ 65\ is\ what\ number?$



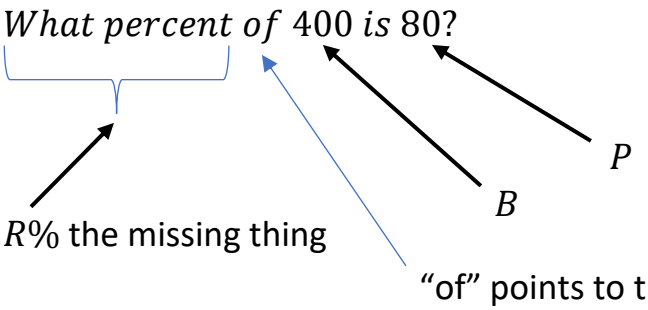
$$P = \frac{B \times R\%}{100}$$

$$P = \frac{65 \times 40\%}{100}$$

$$= \frac{2600}{100}$$

$$\boxed{P = 26}$$

To solve for R%:



$$R\% = \frac{P \times 100}{B}$$

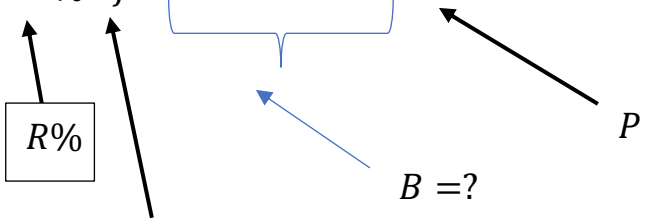
$$R\% = \frac{80 \times 100}{400}$$

$$= \frac{8000}{400}$$

$$R = 20\%$$

To solve for B:

$45\%\ of\ what\ number\ is\ 90?$



"of" points to the Base; which we are having to solve for.

$$B = \frac{P \times 100}{R\%}$$

$$B = \frac{90 \times 100}{15\%}$$

$$= \frac{9000}{15\%}$$

$$B = 60$$