

6.3a The Percent Proportion

You can represent "a is p percent of w" with the proportion

$$\frac{a}{w} = \frac{p}{100}$$
 a = part of whole
 w = whole
 p = percent of a

$50\% = \frac{50}{100} \leftarrow P$

* is over of $\frac{is}{of}$

Ex. 1 What percent of 15 is 12?

$$\frac{a}{w} = \frac{p}{100}$$

$$\frac{12}{15} = \frac{p}{100}$$

$$15 \cdot p = 12 \cdot 100$$

$$15p = 1200$$

$$p = \frac{1200}{15}$$

$$p = 80$$

$$15 \overline{) 1200} \begin{array}{r} 80 \\ \underline{1200} \\ 0 \end{array}$$

Ex. 2 What number is 36% of 50?

$$\frac{a}{w} = \frac{p}{100}$$

$$\frac{a}{50} = \frac{36}{100}$$

$$100 \cdot a = 50 \cdot 36$$

$$100a = 1800$$

$$a = \frac{1800}{100}$$

$$a = 18$$

$$100 \overline{) 1800} \begin{array}{r} 18 \\ \underline{1800} \\ 0 \end{array}$$

Ex. 3 150% of what number is 24?

$$\frac{a}{w} = \frac{p}{100}$$

$$\frac{24}{w} = \frac{150}{100}$$

$$150 \cdot w = 24 \cdot 100$$

$$150w = 2400$$

$$w = \frac{2400}{150}$$

$$w = 16$$

$$15 \overline{) 2400} \begin{array}{r} 16 \\ \underline{2400} \\ 0 \end{array}$$