

6.3A The Percent Proportion

The Percent Proportion

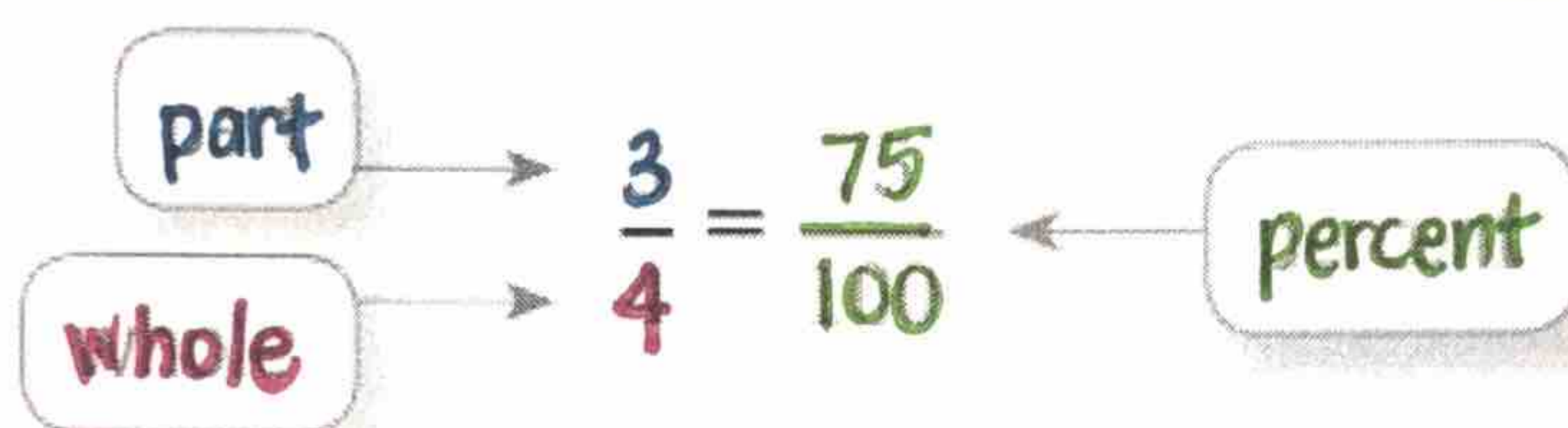
Words You can represent " a is p percent of w " with the proportion

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

where a is part of the whole w , and $p\%$, or $\frac{p}{100}$, is the percent.

Numbers

3 out of 4 is 75%.



Ex: What percent of 15 is 12?

$$\begin{aligned} \frac{a}{w} &= \frac{p}{100} \\ \left(\frac{100}{1}\right) \frac{12}{15} &= \frac{p}{100} \left(\frac{100}{1}\right) \\ 80 &= p \\ \boxed{p = 80\%} \end{aligned}$$

Ex: What number is 36% of 50?

$$\begin{aligned} \frac{a}{w} &= \frac{p}{100} \\ \left(\frac{50}{1}\right) \frac{a}{50} &= \frac{36}{100} \left(\frac{50}{1}\right) \\ \boxed{a = 18} \end{aligned}$$

Ex: 150% of what number is 24?

$$\begin{aligned} \frac{a}{w} &= \frac{p}{100} \\ \frac{24}{w} &= \frac{150}{100} \\ 150(w) &= 24(100) \\ \frac{150w}{150} &= \frac{2400}{150} \\ \boxed{w = 16} \end{aligned}$$

Ex: 210% of what number is 84?

$$\begin{aligned} \frac{a}{w} &= \frac{p}{100} \\ \frac{84}{w} &= \frac{210}{100} \\ 210(w) &= 84(100) \\ \frac{210w}{210} &= \frac{8400}{210} \\ \boxed{w = 40} \end{aligned}$$