

1. What percent of 80 is 48?

for every 100

$\frac{X}{100} \times 80 = 48$

$$\frac{100}{80} \left(\frac{80X}{100} \right) = (48) \frac{100}{80}$$

$$X = \frac{(48)(100)}{80} = \boxed{60\%}$$

2.) What percent is 13 of 25?

$$\frac{X}{100} = \frac{13}{25}$$

$$\frac{25X}{25} = \frac{(100)(13)}{25} \quad X = \frac{(100)(13)}{25} = \boxed{52\%}$$

3.) Find 40% of 90

$$\begin{array}{ccccccc} & \downarrow & & \downarrow & & \downarrow & \\ & \frac{40}{100} & * & 90 & & \frac{(\cancel{40})(\cancel{90})}{\cancel{100}} & = \boxed{36} \end{array}$$

4.) 30% of X is 21

$$\begin{array}{cccccc} & \downarrow & & \downarrow & & \downarrow \\ & \frac{30}{100} & * & X & = & 21 \end{array}$$

$$\frac{\cancel{100}}{\cancel{30}} \left(\frac{\cancel{30}X}{\cancel{100}} \right) = (21) \frac{100}{30}$$

$$X = \frac{(\cancel{21}) (\cancel{100})^7}{\cancel{30}} = \boxed{70}$$

5.) What percent of 60 is 42?

$$\downarrow$$
$$\frac{X}{100}$$

$$\downarrow \quad \downarrow \quad \downarrow \quad \downarrow$$
$$* \quad 60 = 42$$

$$\frac{100}{60} \left(\frac{60X}{100} \right) = (42) \frac{100}{60}$$

$$X = \frac{(42)(100)}{\cancel{60}} = \boxed{70\%}$$

6.) What percent is 12 of 30?

$$\downarrow$$
$$\frac{X}{100}$$

~~100~~

$$\downarrow$$
$$= \left(\frac{12}{30} \right) 100$$

$$X = \frac{4}{\cancel{30}} \frac{(12)(100)}{\cancel{30}} = \boxed{40\%}$$

7.) Find 30% of 70

$$\begin{array}{ccccccc} & & \downarrow & & \downarrow & & \downarrow \\ & & 30 & * & 70 & = & \frac{(\cancel{30})(\cancel{70})}{100} = \boxed{21} \\ & & \hline & & 100 & & & & \end{array}$$

8.) 80% of X is 64

$$\begin{array}{cccccc} & \downarrow & & \downarrow & & \downarrow \\ & 80 & * & X & = & 64 \\ & \hline & 100 & & & & \end{array}$$

$$\frac{100}{80} \left(\frac{80X}{100} \right) = (64) \frac{100}{80}$$

$$X = \frac{(\cancel{64})(\cancel{100})}{\cancel{80}} = \boxed{80}$$