Applications of percent.

We can use the following structure to solve many percentage problems!

$$\left(\text{A percent} \right) \text{of} \left(\text{a total} \right) \text{is} \left(\text{a portion.} \right)$$

$$\left(\right) \bullet \left(\right) = \left(\right)$$

A basketball player successfully makes 82 out of 120 free throws.
What is the players successful free throw percentage?

$$\left(\quad \% \quad\right) \bullet \left(\text{Total}\right) = \left(\text{Portion}\right)$$

$$\left(\begin{matrix}\% \\ \text{free throws}\end{matrix}\right) \bullet \left(\begin{matrix}\text{Total} \\ \text{free throws}\end{matrix}\right) = \left(\begin{matrix}\text{Successful} \\ \text{free throws}\end{matrix}\right)$$

X =

X =

X =

$$\bullet \qquad =$$
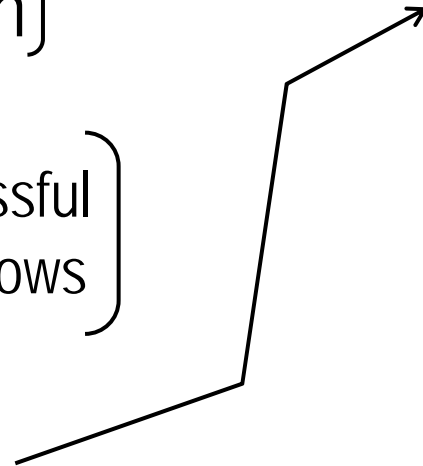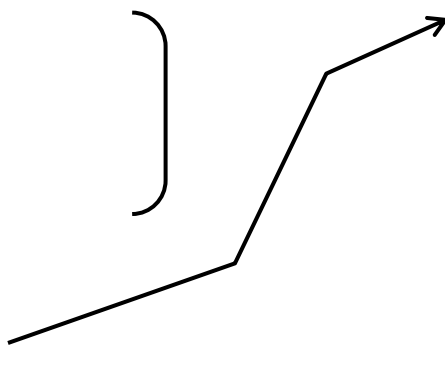
The population of a large city is 60% female. If the total population of the city is 584,855 people, how many females are in this population?

$$\left[\quad \% \quad \right] \cdot \left[\text{Total}\right] = \left[\text{Portion}\right]$$

$$\left[\begin{array}{c} \% \\ \text{Female} \end{array}\right] \cdot \left[\begin{array}{c} \text{Total} \\ \text{Population} \end{array}\right] = \left[\quad\quad\right]$$
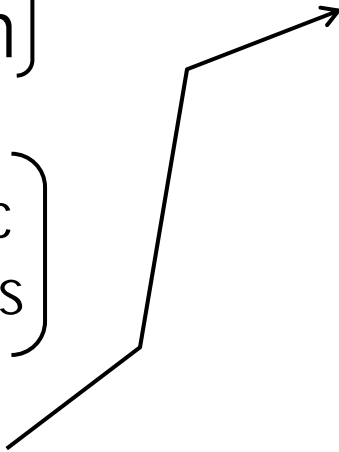
$$\bullet \qquad\qquad =$$

$$=$$

At a Community College 32% of a graduating class took statistics.
If 360 students from this graduating class took statistics, how many students
are in this graduating class?

$$\left(\quad\% \quad\right) \bullet \left(\text{Total}\right) = \left(\text{Portion}\right) \qquad\qquad =$$

$$\left(\qquad\right) \bullet \left(\qquad\right) = \left(\begin{array}{c}\text{Statistic}\\\text{Students}\end{array}\right) \qquad =$$
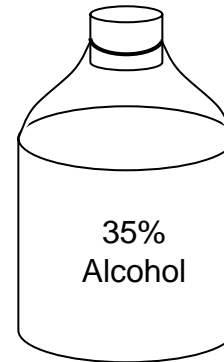
$$\bullet \qquad\qquad =$$

How much alcohol and water is in a 60 ml bottle of alcohol solution marked 35% alcohol?

$$\left[\ \%\ \right] \cdot \left[\text{Total}\right] = \left[\text{Portion}\right]$$

$$\left[\begin{array}{c} \% \\ \text{Alcohol} \end{array}\right] \cdot \left[\begin{array}{c} \text{Amount} \\ \text{of} \\ \text{solution} \end{array}\right] = \left[\begin{array}{c} \text{Amount} \\ \text{of} \\ \text{alcohol} \end{array}\right]$$

$$0.35 \ \cdot \ 60 \ = \ x$$

35%
Alcohol

60 ml

=

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