

Percent Equations: Part II

◆ To find the percent when the base and amount are given

Example 1:

A recent promotional game at a grocery store listed the probability of winning a prize as “**1 chance in 2**”. A percent can be used to describe the chance of winning. This requires answering the question “**What percent of 2 is 1?**”

⇒ The chance of winning can be found by **solving the basic percent equation for percent.**

What percent of	2	is	1
$\frac{\text{Percent}}{n}$	$\times \frac{\text{base}}{2}$	=	$\frac{\text{amount}}{1}$
n	$\times 2$	=	1
	$2n$	=	1
	$\frac{2n}{2}$	=	$\frac{1}{2}$
	n	=	0.5
	n	=	50%

There is a 50% chance of winning the prize.

Example 2: What percent of 12 is 27?

Solution $n \times 12 = 27$

$$\frac{12n}{12} = \frac{27}{12}$$

$$n = 2.25$$

$$\boxed{n = 225\%}$$

Example 3: 25 is what percent of 75?

Solution $25 = n \times 75$

$$\frac{25}{75} = \frac{75n}{75}$$

$$\frac{1}{3} = n$$

$$33\frac{1}{3}\% = n$$

◆ **To solve application problems**

Example:

The monthly house payment for the Kaminski family is **\$787.50**. What percent of the Kaminskis' monthly income of **\$3750** is the house payment?

⇒ **Strategy**

To find what percent of the income the house payment is, write and solve the **basic percent equation**, using **n** to represent the **percent**. The **base** is **\$3750** and the amount is **\$787.50**.

⇒ **Solution**

$$n \times \$3750 = \$787.50$$

$$\frac{n \times \$3750}{\$3750} = \frac{\$787.50}{\$3750.00}$$

$$\boxed{n = 0.21 = 21\%}$$

The house payment is 21% of the monthly income.