Lesson 6-7

Example 1 Find the Part

Find 37% of 64. **Estimate:** 40% of 60 is 24.

You know that the base is 64 and the percent is 37%.
Let n represent the part.

$n = 0.37(64)$ Write 37% as the decimal 0.37.
$n = 23.68$ Simplify.

So, 37% of 64 is 23.68.

Example 2 Find the Percent

7.2 is what percent of 40? **Estimate:** $\frac{7.2}{40} \approx \frac{8}{40}$ or $\frac{1}{5}$, which is 20%.

You know that the base is 40 and the part is 7.2.
Let n represent the percent.

$7.2 = n(40)$
$\frac{7.2}{40} = n$ Divide each side by 40.
$0.18 = n$ Simplify.

So, 7.2 is 18% of 40.

Example 3 Find the Base

23 is 25% of what number? **Estimate:** 25 is $\frac{1}{4}$ or 25% of 100.

You know that the part is 23 and the percent is 25%.
Let n represent the base.

$23 = 0.25n$ Write 25% as the decimal 0.25.
$\frac{23}{0.25} = \frac{0.25n}{0.25}$ Divide each side by 0.25.
$92 = n$ Simplify.

So, 23 is 25% of 92.

Example 4 Find Discount

ELECTRONICS Juan wants to buy a stereo system. The regular price of the system is $1250. Suppose it is on sale at a 20% discount. What will be the sale price of the stereo system?

Method 1

First, use the percent equation to find 20% of 1250. **Estimate:** $\frac{1}{5}$ of 1250 is 250.

Let d represent the discount.

$d = 0.20(1250)$	The base is 1250 and the percent is 20%.
$d = 250$	Simplify.

Then, find the sale price.

$1250 - 250 = 1000.$	Subtract the discount from the original price.

Method 2

A discount of 20% means the item will cost 100% - 20% or 80% of the original price. Use the percent equation to find 80% of 1250.

Let s represent the sale price.

$s = 0.80(1250)$	The base is 1250 and the percent is 80%.
$s = 1000$	Simplify.

The sale price of the stereo system will be $1000.

Example 3 Apply Simple Interest Formula

BANKING Suppose Patrick invests $2650 at an annual rate of 3.75%. How long will it take until Patrick earns $795?

$I = prt$	Write the simple interest formula.
$795 = 2650(0.0375)t$	Replace I with 795, p with 2650, and r with 0.0375.
$795 = 99.375t$	Simplify.
$\frac{795}{99.375} = \frac{99.375t}{99.375}$	Divide each side by 99.375.
$8 = t$	Simplify.

Patrick will earn $795 in interest in 8 years.