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: \(\frac{7.2}{40} \approx \frac{8}{40} = \frac{1}{5}\), 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.
\[
d = 0.20(1250) \quad \text{The base is 1250 and the percent is 20%}. \\
d = 250 \quad \text{Simplify}.
\]

Then, find the sale price.
\[
1250 - 250 = 1000. \quad \text{Subtract the discount from the original price}.
\]

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.
\[
s = 0.80(1250) \quad \text{The base is 1250 and the percent is 80%}. \\
s = 1000 \quad \text{Simplify}.
\]

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?

\[
I = prt \\
795 = 2650(0.0375)t \\
795 = 99.375t \\
\frac{795}{99.375} = \frac{99.375t}{99.375} \\
8 = t
\]

Patrick will earn $795 in interest in 8 years.