Lesson 7-4

Example 1 Find the Part
What number is 36% of 120?

Estimate $0.4 \cdot 120 = 48$

36% or 0.36 is the percent and 120 is the base. Let n represent the part.

$\underbrace{\text{part}} = \underbrace{\text{percent}} \cdot \underbrace{\text{whole}}$

$n = 0.36 \cdot 120$	Write an equation.
$n = 43.2$	Multiply. The part is 43.2.

So, 36% of 120 is 43.2. This is close to the estimate.

Example 2 Find the Percent
45 is what percent of 60?

Estimate $\frac{45}{60} \approx \frac{2}{3}$ or 67%

Let n represent the percent.

$\underbrace{\text{part}} = \underbrace{\text{percent}} \cdot \underbrace{\text{whole}}$

$45 = n \cdot 60$	Write an equation.
$\frac{45}{60} = \frac{60n}{60}$	Divide each side by 60.
$0.75 = n$	Simplify.
$75\% = n$	Write 0.75 as a percent.

So, 45 is 75% of 60. This is close to the estimate.

Example 3 Find the Whole
14 is 35% of what number?

Estimate 14 is 33% or $\frac{1}{3}$ of 42.

Let n represent the base.

$\underbrace{\text{part}} = \underbrace{\text{percent}} \cdot \underbrace{\text{whole}}$

$14 = 0.35 \cdot n$	Write an equation.
$\frac{14}{0.35} = \frac{0.35n}{0.35}$	Divide each side by 0.35.
$40 = n$	Simplify.

So, 14 is 35% of 40. Compare to the estimate.

Example 4 Apply the Percent Equation
SPORTS School administrators state that 38% of the students enrolled at Woodhawk Middle School are involved in after-school sports. If there are 228 students involved in after-school sports, how many students are enrolled at Woodhawk Middle School?

Words 228 is 38% of what number?
Symbols Let n represent the whole.
Equation $228 = 0.38 \cdot n$

$228 = 0.38 \cdot n$	Write the equation.
$\frac{228}{0.38} = \frac{0.38n}{0.38}$	Divide each side by 0.38.
$600 = n$	Simplify.

There are 600 students enrolled at Woodhawk Middle School.