

## Lesson 27: Solving Percent Problems

### Classwork

#### Example 1

Solve the following three problems.

Write the words PERCENT, WHOLE, or PART under each problem to show which piece you were solving for.

$$60\% \text{ of } 300 = \underline{180} \quad 60\% \text{ of } \underline{500} = 300 \quad 60 \text{ out of } 300 = \underline{20} \%$$

$$\begin{array}{r} 60 \times 3 = 180 \\ \hline 100 \times 3 = 300 \end{array}$$

$$\begin{array}{r} 60 \times 5 = 300 \\ \hline 100 \times 5 = 500 \end{array}$$

$$\begin{array}{r} 60 \div 3 = 20 \\ \hline 300 \div 3 = 100 \end{array}$$

PART

Whole

Percent

How did your solving method differ with each problem? (Answers will vary)

## Exercise

Use models, such as  $10 \times 10$  grids, ratio tables, tape diagrams, or double number line diagrams, to solve the following situation.

Priya is doing her back-to-school shopping. Calculate all of the missing values in the table below, rounding to the nearest penny, and calculate the total amount Priya will spend on her outfit after she receives the indicated discounts.

	Shirt (25% discount)	Pants (30% discount)	Shoes (15% discount)	Necklace (10% discount)	Sweater (20% discount)
Original Price	\$44	\$50	\$60	\$20	\$35
Amount of Discount	\$11	\$15	\$9	\$2	\$7

What is the total cost of Priya's outfit?

Shirt 25%  $\frac{25}{100} = \frac{1}{4}$   $\frac{1}{4} = 0.25$   $\$44 \cdot 0.25 = \$11$  The cost of the shirt is \$33 because  $\$44 - 11 = \$33$

Pants: 30%  $\frac{30}{100} = \frac{15}{50}$  The original price is \$50. The price of the pants is \$35.  $\$50 - 15 = \$35$ .

Shoes: 15%  $= \frac{15}{100} = \frac{3}{20} = \frac{9}{60}$  The original price is \$60. The cost of the shoes is \$51.  $\$60 - \$9 = \$51$ .

Necklace: 10%  $\frac{1}{10} = \frac{2}{20}$  The discount is \$2. The cost of the necklace is \$18 because  $\$20 - \$2 = \$18$ .

Sweater: 20%  $\frac{20}{100} = \frac{1}{5} = \frac{7}{35}$  The original price is \$35. The cost of the sweater is \$28.  $\$35 - 7 = \$28$ .

The total outfit would cost the following:  $\$33 + 35 + 51 + 18 + 28 = \$165$ .