## Lesson 26: Percent of a Quantity

## Classwork

## Example 1

Five of the 25 girls on Alden Middle School's soccer team are $7^{\text {th }}$ grade students. Find the percentage of $7^{\text {th }}$ graders on the team. Show two different ways of solving for the answer. One of the methods must include a diagram or picture model.

## Example 2

Of the 25 girls on the Alden Middle School soccer team, $40 \%$ also play on a travel team. How many of the girls on the middle school team also play on a travel team?

## Example 3

The Alden Middle School girls' soccer team won $80 \%$ of its games this season. If the team won 12 games, how many games did it play? Solve the problem using at least two different methods.

## Exercises

1. There are 60 animal exhibits at the local zoo. What percent of the zoo's exhibits does each animal class represent?

| Exhibits by Animal Class | Number of Exhibits | Percent of the Total <br> Number of Exhibits |
| :---: | :---: | :---: |
| Mammals | 30 |  |
| Reptiles \& Amphibians | 15 |  |
| Fish \& Insects | 12 |  |
| Birds | 3 |  |

2. A sweater is regularly $\$ 32$. It is $25 \%$ off the original price this week.
a. Would the amount the shopper saved be considered the part, whole, or percent?
b. How much would a shopper save by buying the sweater this week? Show two methods for finding your answer.
3. A pair of jeans was $30 \%$ off the original price. The sale resulted in a $\$ 24$ discount.
a. Is the original price of the jeans considered the whole, part, or percent?
b. What was the original cost of the jeans before the sale? Show two methods for finding your answer.
4. Purchasing a TV that is $20 \%$ off will save $\$ 180$.
a. Name the different parts with the words: PART, WHOLE, PERCENT.
$20 \%$ off
\$180
Original Price
b. What was the original price of the TV? Show two methods for finding your answer.

## Lesson Summary

Models and diagrams can be used to solve percent problems. Tape diagrams, $10 \times 10$ grids, double number line diagrams, and others can be used in a similar way to using them with ratios to find the percent, the part, or the whole.

## Problem Set

1. What is $15 \%$ of 60 ? Create a model to prove your answer.
2. If $40 \%$ of a number is 56 , what was the original number?
3. In a $10 \times 10$ grid that represents 800 , one square represents $\qquad$ -. Use the grids below to represent $17 \%$ and $83 \%$ of 800 .

$17 \%$ of 800 is $\qquad$ .
$83 \%$ of 800 is $\qquad$ .
