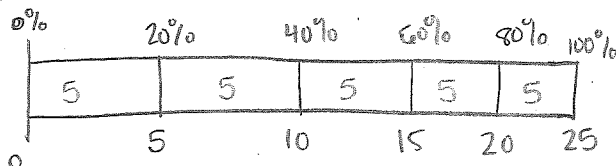


Lesson 26: Percent of a Quantity

Classwork

Example 1

Five of the 25 girls on Alden Middle School's soccer team are seventh-grade students. Find the percentage of seventh graders on the team. Show two different ways of solving for the answer. One of the methods must include a diagram or picture model.



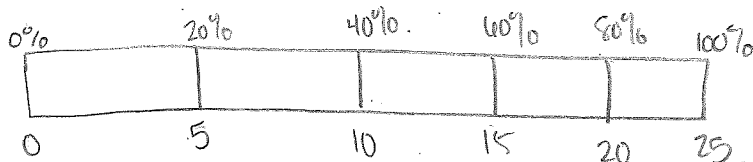
$$\frac{25}{5} = 5$$

$$\frac{5}{25} \div 5 = \frac{1}{5} = \frac{20}{100} = 20\%$$

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?

$$\frac{40}{100} \div 4 = \frac{10}{25} \text{ Therefore, 10 out of 25 girls are on the travel team}$$



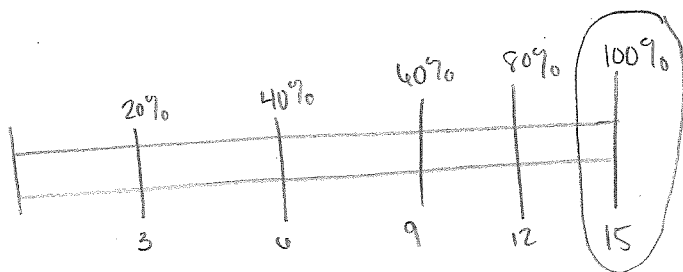
Example 3

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.

$$80\% = \frac{80}{100} \div 10 = \frac{8}{10} = \frac{4}{5}$$

$$\frac{4 \times 3}{5 \times 3} = \frac{12}{15}$$

15 total games.



The girls played a total of 15 games.

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 Number of Exhibits
Mammals	30	$\frac{30}{60} \cdot 100 = \frac{1}{2} = 50\%$
Reptiles & Amphibians	15	$\frac{15}{60} \cdot 100 = \frac{1}{4} = 25\%$
Fish & Insects	12	$\frac{12}{60} \cdot 100 = \frac{1}{5} = 20\%$
Birds	3	$\frac{3}{60} \cdot 100 = \frac{1}{20} = 5\%$

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?

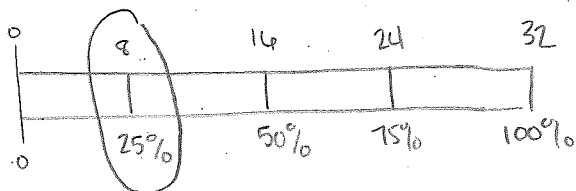
It would be considered the part. The \$32 is the whole amount & we want to know the part that was saved.

- b. How much would a shopper save by buying the sweater this week? Show two methods for finding your answer.

$$25\% = \frac{25}{100} \div 25 = \frac{1}{4}$$

$$\frac{32}{1} \cdot \frac{1}{4} = \frac{32}{4} = \$8$$

The shopper would save \$8.



The shopper would save \$8.

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?

The original price is the whole.

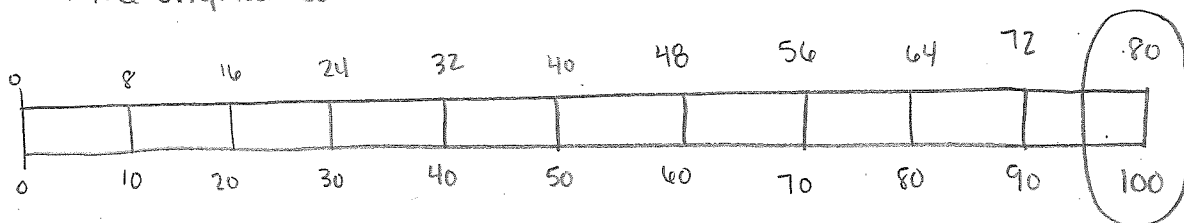
- b. What was the original cost of the jeans before the sale? Show two methods for finding your answer.

1. $30\% = \frac{30}{100} = \frac{3}{10}$

$$\frac{3 \times 8 = 24}{10 \times 8 = 80}$$

The original cost is \$80.

2.



4. Purchasing a TV that is 20% off will save \$180.
- a. Name the different parts with the words: PART, WHOLE, PERCENT.

Percent	Part	Whole
20% off	\$180	Original Price

- b. What was the original price of the TV? Show two methods for finding your answer.

$$20\% = \frac{20}{100}$$

$$\frac{20 \times 9 = 180}{100 \times 9 = 900}$$

The original price was \$900.00