Lesson 12-4: Using Percents

A percent can always be used to compare a part to a whole. In a percent, the whole is always 100.

$$\frac{\%}{100} = \frac{part}{whole}$$

Finding a Part

What is 85% of 20?

1. What is 30% of 50?

2. What is 80% of 25?

Finding a Whole

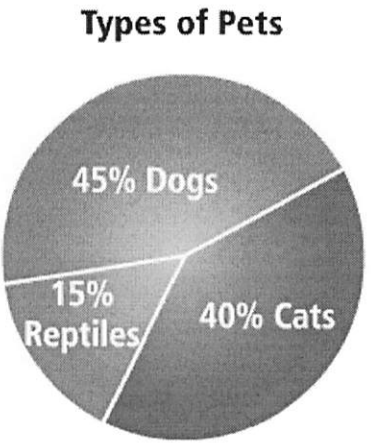
17 is 85% of what number?

3. 40 is 200% of what number?

4. 13 is 15% of what number?

Example

Customers in a pet store were asked what type of pet they own. The circle graph shows the results of the survey. If 8 customers own cats, how many customers were surveyed?



Got It?

In one community, 84% of the animal shelters microchip cats and dogs before adoption. If 21 shelters in the community microchip cats and dogs, how many animal shelters are in that community?

Got It?

During one year, 60% of the hurricanes that struck the U.S. were Category 1 hurricanes. If nine Category 1 hurricanes struck the U.S. that year, what was the total number of hurricanes that struck the U.S. during that year?

Lesson 12-4: Using Percents

A percent can always be used to compare a part to a whole. In a percent, the whole is always 100.

$$\frac{\%}{100} = \frac{part}{whole}$$

$$\frac{\%}{100} = \frac{is}{of}$$

Finding a Part

What is 85% of 20?

$\frac{85}{100} = \frac{17}{20}$ (÷5 on 85, ÷5 on 100, 17 circled)

1. What is 30% of 50?

$\frac{30}{100} = \frac{15}{50}$ (÷2 on 30, ÷2 on 100, 15 circled)

2. What is 80% of 25?

$\frac{80}{100} = \frac{20}{25}$ (÷4 on 80, ÷4 on 100, 20 circled)

Finding a Whole

17 is 85% of what number?

$\frac{85}{100} = \frac{17}{x}$

$85x = 1700$

÷85 ÷85

$x = 20$

3. 40 is 200% of what number?

$\frac{200}{100} = \frac{40}{20}$ (÷5 on 200, ÷5 on 100, 20 circled)

4. 13 is 15% of what number?

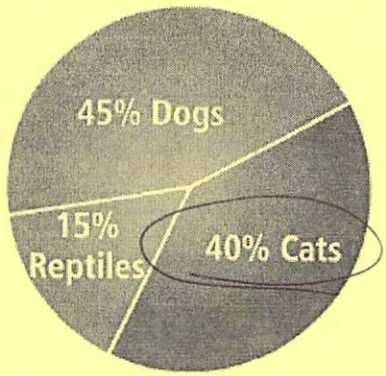
$\frac{15}{100} = \frac{13}{x}$

$15x = 1300$

$x = 86.\overline{6}\%$

Example

Customers in a pet store were asked what type of pet they own. The circle graph shows the results of the survey. If 8 customers own cats, how many customers were surveyed?



$$\frac{\text{cat owners}}{\text{total people}} \rightarrow \frac{40}{100} = \frac{8}{20}$$

(÷5 from 40 to 8; ÷5 from 100 to 20)

20 customers were surveyed

Got It?

In one community, 84% of the animal shelters microchip cats and dogs before adoption. If 21 shelters in the community microchip cats and dogs, how many animal shelters are in that community?

$$\frac{\text{shelters that microchip}}{\text{total shelters}} \qquad \frac{84}{100} = \frac{21}{x}$$

(÷4 from 84 to 21; ÷4 from 100 to x)

25 shelters in the community

Got It?

During one year, 60% of the hurricanes that struck the U.S. were Category 1 hurricanes. If nine Category 1 hurricanes struck the U.S. that year, what was the total number of hurricanes that struck the U.S. during that year?

$$\frac{\text{Cat 1 Hurricanes}}{\text{Total Hurricanes}} \qquad \frac{60}{100} = \frac{9}{x}$$

$$\frac{60}{60}x = \frac{900}{60}$$

$$x = 15$$

15 total Hurricanes