

**Do Now:** Simplify

1)  $\frac{24 - 14}{14}$

2)  $\frac{600 - 135}{600}$

3)  $\frac{150 - 132}{132}$

**Do Now: (Do Not Copy)**

In a dog agility competition, dogs are tested in their ability to get past obstacles. The table shows the number of dogs from each breed that competed in a dog agility competition.

a.) What percent of the dogs that competed were spaniels? Sheepdogs?

20% 62.5%

b.) In the competition, 70% of the dogs that finished in the top half were sheepdogs. How many sheepdogs finished in the top half?

52 sheepdogs

Dog Breed	Number that Competed
Sheepdog	75
Spaniel	24
Terrier	14
Other	7

Total: 120

14

$$\frac{13}{x} = \frac{12.5}{100}$$

$$\frac{12.5x}{12.5} = \frac{1300}{12.5}$$

$$x = 104$$

104 musicians

15

$$\frac{6}{20} = \frac{x}{100}$$

$$\frac{20x}{20} = \frac{600}{20}$$

$$x = 30$$

30%

(16)

a)  $\frac{72}{240} = \frac{x}{100}$  (30%)

$$\frac{240x}{240} = \frac{7200}{240}$$
$$x = 30$$

$\frac{36}{240} = \frac{x}{100}$  (15%)

$$\frac{240x}{240} = \frac{3600}{240}$$
$$x = 15$$

b)  $\frac{18}{72} = \frac{x}{100}$  (25%)

$$\frac{72x}{72} = \frac{1800}{72}$$
$$x = 25$$

Use a proportion to answer the question in terms of y.

What number is 24% of y?

5y is 48% of what number?

## 7.5 Percent of Change

7.RP

7.EE

8.EE

- SWBAT find a percent of change in a quantity.
- SWBAT represent and analyze situations using algebraic symbols.

Calculators: Yes

## Percent of Change

$$p\% = \frac{\text{amount of increase or decrease}}{\text{original amount}}$$

The International Balloon Fiesta takes place every year in Albuquerque, NM. In 1999, 903 balloons participated. In 2000, 1019 balloons participated. By what percent did the number of balloons increase from 1999 to 2000.

$$\begin{array}{r} 1019 \\ - 903 \\ \hline 116 \end{array}$$

increase of 116 balloons

original amount is 903

$$p\% = \frac{\text{amount of increase}}{\text{original amount}}$$

$$p\% = \frac{116}{903}$$

$$p\% = 0.1284$$

$$p\% = 12.84\%$$

increase

decimal answer

At its first visit to a vet, a puppy weighed 28 pounds. Three months later, the puppy weighed 46 pounds. Find the percent of increase in its weight.

$$\begin{array}{r} 46 \\ - 28 \\ \hline 18 \end{array}$$

increase of 18 pounds

original amount of 28

$$p\% = \frac{\text{amount of increase}}{\text{original amount}}$$

$$p\% = \frac{18}{28}$$

$$= 0.6428 \leftarrow \text{decimal}$$

$$= 64.28\% \text{ increase}$$

Find the percent decrease from 512 to 320.

$$\begin{aligned}
 p\% &= \frac{192}{512} \\
 &= 0.375 \\
 &= \text{37.5\% decrease}
 \end{aligned}$$

Find the percent decrease from 250 to 145.

$$\begin{aligned}
 p\% &= \frac{105}{250} \\
 &= 0.42 \\
 &= \text{42\% decrease}
 \end{aligned}$$

- For p% increase  
-Multiply the original amount by  $(100\% + p\%)$

- For p% decrease  
-Multiply the original amount by  $(100\% - p\%)$

Find the new amount.

1. Increase 45 by 20%

$$\begin{aligned}
 45(100\% + 20\%) &= 45(120\%) \\
 &= 45(1.20) \\
 &= 54
 \end{aligned}$$

2. Decrease 85 by 28%

$$\begin{aligned}
 85(100\% - 28\%) &= 85(72\%) \\
 &= 85(0.72) \\
 &= 61.2
 \end{aligned}$$

An annual concert was attended by 4212 people last year. This year, the number attending increased by about 14% over last year. How many people attended the concert this year?

$$\begin{aligned}
 &4212(100\% + 14\%) \\
 &= 4212(114\%) \\
 &= 4212(1.14) \\
 &= 4801.68
 \end{aligned}$$

About 4801 people

There were about 198,000 spectators at an action sports event in 1995. The number of spectators increased by 12% from 1995 to 2002. About how many spectators were in 2002?

Last month, a restaurant charged \$12.95 for a seafood pasta dinner. This month, the owner had new menus printed with all dinner prices decreased by 12%. What is the new price for a seafood pasta dinner?

$$\begin{aligned}
 &12.95(100\% - 12\%) \\
 &= 12.95(88\%) \\
 &= 12.95(0.88) \\
 &= 11.396 \\
 &= \$11.40
 \end{aligned}$$

In 1983, the average price of an audio CD was \$21.50. By 2000, the average price had decreased by 34.8%. What was the average price of a CD in 2000?

**Exit Pass 7.5**

A number is increased by 30%. Explain how you can find the new amount.

"Don't blame the sea if you cannot catch a fish."

Working individually or with a partner, complete the workbook.

**Workbook pg.**

**Reflection of Today's Lesson****7.5 Percent of Change**

7.RP  
7.EE  
8.EE

- SWBAT find a percent of change in a quantity.
- SWBAT represent and analyze situations using algebraic symbols.

**Calculators: Yes**

**Homework**

pg. 355 #7-19

ALL

