

3-11-19

Aim: SWBAT find the percent of change and the percent error.

HW: Puzzle

Test Wednesday

Do Now: Packet Page 22

Aim: SWBAT find the percent of change and the percent of error.

Do Now: Suzanne bought a sweater at the sale price of \$25. The original cost of the sweater was \$40. What percent represents the discount that Suzanne received when buying the sweater?

$$40 - 25 = 15$$

$$\frac{15}{40} = \frac{x}{100}$$

$$\frac{25}{40} = \frac{x}{100}$$

$$x = 62.5$$

← the amount of the retail price that you're paying for

$$100\% - 62.5\% = 37.5\%$$

sale for

- A. 15% **B. 37.5%** C. 60% D. 62.5%

Finding the Percent of Change

$$\frac{\text{Amt. of Change}}{\text{Original Amt.}} = \frac{r}{100}$$

Tell whether the percent change is an increase or decrease. Then, find the percent of change. Round your answer to the nearest hundredth.

	A	B
1	<p>\$36,000 to \$40,000</p> $40000 - 36000 = 4000$ $\frac{4000}{36000} = \frac{x}{100}$ $\frac{36000x}{36000} = \frac{400000}{36000}$ $x = 11.111...$ $x \approx 11.11$	<p>10 miles to 36 miles</p> $36 - 10 = 26$ amt. of increase $\frac{26}{10} = \frac{x}{100}$ $\frac{10x}{10} = \frac{2600}{10}$ $x = 260$
2	<p>5.42 minutes to 5.2 minutes</p> $5.42 - 5.2 = 0.22$ amt. of decrease $\frac{0.22}{5.42} = \frac{x}{100}$ $x \approx 4.06$	<p>64 teams to 4 teams</p> $64 - 4 = 60$ $\frac{60}{64} = \frac{x}{100}$ $\frac{64x}{64} = \frac{6000}{64}$ $x = 93.75$
3	<p>89 members to 120 members</p> $120 - 89 = 31$ $\frac{31}{89} = \frac{x}{100}$ increase	<p>500 sales to 380 sales</p> $500 - 380 = 120$ $\frac{120}{500} = \frac{x}{100}$ $\frac{500x}{500} = \frac{12000}{500}$ $x = 24$

$$\frac{89x}{89} = \frac{3100}{89}$$

$$x = 34.8314...$$

$$x \approx 34.83$$

24% decrease

Finding the Percent Error

$$\frac{\text{Amt. of Error}}{\text{Actual Amt.}} = \frac{r}{100}$$

The percent error is the result of translating the amount of inaccuracy into a percent.

4. Suppose you guess that there are 300 gumballs in a jar, but there are actually 400 gumballs in the jar. What is your percent error?

$$400 - 300 = 100$$

amt. of error

$$\frac{100}{400} = \frac{x}{100}$$

$$\frac{400x}{400} = \frac{10000}{400}$$

$$x = 25$$

5. Joshua uses his thermometer and finds that the boiling point of ethyl alcohol is 75°C. He looks in a reference book and finds that the actual boiling point of ethyl alcohol is 80°C. What is his percent error?

$$80 - 75 = 5$$

amt. of error

$$\frac{5}{80} = \frac{x}{100}$$

$$\frac{80x}{80} = \frac{500}{80}$$

$$x = 6.25$$

6. A bridge project was predicted to take 3 years to complete, but due to unforeseen events, it actually took 5 years to complete. What was the percent error?

$$5 - 3 = 2$$

amt. of error

$$\frac{2}{5} = \frac{x}{100}$$

$$\frac{5x}{5} = \frac{200}{5}$$

$$x = 40$$

7. The meteorologist said that there would be 5 inches of snow as a result of the storm. Only 3 inches of snow actually accumulated. What was the percent error?

CHAPTER 7

Name _____ Date _____

Chapter Review Games and Activities

For use after Chapter 7

Peculiar Pentagons!

Cut out the pentagons. Match a side of each pentagon with a side of another pentagon. For example: 0.43 would match 43%; $\frac{3}{10}$ would match 30%; $\frac{5}{10}$ would match $\frac{10}{20}$. When you have matched all the sides, paste the pentagons in the correct configuration onto a piece of paper. (Not all sides have a match.)

A
0.92

B
67% of 18

C
 $\frac{37.5\%}{5.4}$

D
 $\frac{42}{36}$

E
Selling price: \$131.16
480 times per hour
430%

F
 $\frac{60 \text{ inches}}{\text{year}}$

G
Original price: \$18.00
discount: 20%

H
Original price: \$8.00
discount: 42%

I
Selling price: \$23.80
28%
45%

J
 $\frac{9}{20}$

K
 $\frac{8 \text{ times}}{\text{minute}}$

L
82% of 37

M
Wholesale price: \$7.50
mark up: 75%

N
 $\frac{24\% \text{ of } 12}{\text{Selling price: } \$4.64}$

O
Selling price: \$14.40
 $\frac{12.00}{5 \text{ inches month}}$
92%

P
 $\frac{4.30}{15}$
27

Q
0.28

R
Original price: \$28.00
discount: 15%

Review and Projects

