

Name: Key Date: _____ Core: _____

Math 7 Unit 7 Percent Applications Review

Find the percent of change. State whether each change is an increase or decrease. Round to the nearest tenth when necessary.

1. A \$75 coat is put on sale for \$40.

$$75 - 40 = 35 \quad \frac{35}{75} = \frac{x}{100} \quad \frac{75x = 3500}{75} \quad x = 46.7\%$$

1.) 46.7% decrease

2. Mary earns \$30,000 per year. After a raise, she earns \$31,500

$$31,500 - 30,000 = 1500 \quad \frac{1500}{30000} = \frac{x}{100} \quad \frac{30000x = 150000}{30000} \quad x = 5\%$$

2.) 5% increase

3. Larry read 12 books last year. This year, he read 16 books.

$$16 - 12 = 4 \quad \frac{4}{12} = \frac{x}{100} \quad \frac{12x = 400}{12} \quad x = 33.3\%$$

3.) 33.3% increase

4. Last week, there were 212 customers. This week, there were 245 customers

$$245 - 212 = 33 \quad \frac{33}{212} = \frac{x}{100} \quad \frac{212x = 3300}{212} \quad x = 15.7\%$$

4.) 15.7% increase

5. Original price: \$225 Markup price: \$275

$$275 - 225 = 50 \quad \frac{50}{225} = \frac{x}{100} \quad \frac{225x = 5000}{225} \quad x = 22.2\%$$

5.) 22.2% increase

6. Population in 1990: 855,000 ; Population in 2000: 726,750

$$\frac{855000}{855000} \quad \frac{128250}{855000} = \frac{x}{100} \quad \frac{855000x = 12825000}{855000} \quad x = 15\%$$

6.) 15% decrease

Find either the sale price after a discount or retail price after a markup. Round answers to the nearest cent.

7. Speakers: \$180 30% off $180 \cdot 0.7 = 126$

(sale price) 7.) \$126

8. Camcorder: \$350 33% markup $350 \cdot 1.33 = 465.50$

(retail price) 8.) \$465.50

9. Oven: \$535.99 20% off $535.99 \cdot 0.8 = 428.79$

(sale price) 9.) \$428.79

10. Artwork: \$250 25% off $250 \cdot 0.75 = 187.50$

(sale price) 10.) \$187.50

11. Chair: \$140 45% markup $140 \cdot 1.45 = 203$

(retail price) 11.) \$203

12. Sports Equipment: \$95.75 65% markup

$$95.75 \cdot 1.65 = 157.99$$

(retail price) 12.) \$157.99

Solve the following word problems. Round to the nearest tenth or cent when necessary.

13. Nancy is getting a new sofa. The regular price is \$1299. It will be on sale for 30% off. What will the sale price of the sofa be?

$$1299 \cdot .7 = 909.30$$

13.) \$ 909.30

14. The local grocery store has a 50% markup on gallons of milk. If the grocery store pays \$2.99 for each gallon, what will the retail price be?

$$2.99 \cdot 1.5 = 4.49$$

14.) \$ 4.49

15. Bob went out to buy a digital camera. The price was \$329. How much will Bob pay for the camera including the 7% sales tax?

$$329 \cdot 1.07 = 352.03$$

15.) \$ 352.03

16. Mark and his family went to the Outback Restaurant for dinner. The bill was \$56.42. How much will they pay in all including 7% tax and a 20% tip? (Tip on the amount including tax.)

$$56.42 \cdot 1.07 = 60.37 \quad 60.37 \cdot 1.2 = 72.44$$

16.) \$ 72.44

17. Karla earns \$500 per week plus 5% of her sales in commission. Last week, Karla sold \$2500 worth of product. How much did she earn in all last week?

$$500 + 2500(.05) = 625$$

17.) \$ 625

18. You spend a day out shopping at Southpoint and spend \$14 on a t-shirt, \$34 on a pair of pants, and \$18 on a new hat. If the store takes 15% off to honor your coupon and then adds a 7% sales tax, what would your final purpose price be?

$$\begin{array}{r} 14 \\ 34 \\ + 18 \\ \hline 66 \end{array} \quad 66(.85) = 56.1 \quad 56.1 \cdot 1.07 = 60.03$$

18.) \$ 60.03

19. Jim works at a store where he is paid a weekly salary of \$125 plus a 5½% commission on his total sales. One week Jim's sales totaled \$985. How much did Jim earn that week?

$$125 + 985(.055) = 179.18$$

19.) \$ 179.18

20. A waiter was serving a large table of people one evening at Chili's Restaurant. He was asked at the beginning of the evening to make a choice. He could either get a \$50 tip or get 25% of the total bill as a tip. The bill came to \$145.25.

a.) Which option would be the best for the waiter?

20a.) \$ 50 tip

b.) How much more?

20b.) \$ 13.69

$$145.25(1.25) = 181.56$$

$$145.25 + 50 = 195.25$$

$$\begin{array}{r} 195.25 \\ - 181.56 \\ \hline 13.69 \end{array}$$