



# Percent of Change Worksheet

Name \_\_\_\_\_

Period \_\_\_\_\_

**Directions:** State whether each percent of change is a percent increase or a percent decrease. Then find the percent of increase or decrease. Round to the nearest whole percent.

1. Original: \$100  
New: \$59  
decrease of 41%

$$\frac{41}{100}$$

2. Original: 324 people  
New: 549 people  
Increase of 69%

$$549 - 324 = 225 \quad 225/324$$

3. Original: 58 Homes  
New: 152 Homes  
Increase of 162%

$$152 - 58 = 94 \quad \frac{94}{58} = 1.6206$$

4. Original: 66 Dimes  
New: 30 Dimes  
Decrease of 55%

$$66 - 30 = 36 \quad \frac{36}{66} = .5454$$

5. Original: \$53  
New: \$75  
Increase of 42%

$$75 - 53 = 22 \quad 22/53 = .41509$$

6. Original: 15.6 liters  
New: 11.4 liters  
Decrease of 27%

$$15.6 - 11.4 = 4.2 \quad 4.2/15.6 = .26923$$

7. Original: \$3.78  
New: \$2.50  
Decrease of 34%

$$3.78 - 2.5 = 1.28 \quad 1.28/3.78 = .3386$$

8. Original: 231.2 mph  
New: 236.4 mph  
Increase of 2%

$$236.4 - 231.2 = 5.2 \quad 5.2/231.2 = .0224$$

**Directions:** Find the final price of each item. When there is a discount and sales tax, first compute the discount price and then compute the sales tax and final price.

9. DVD: \$219  
sales tax: 6.5% \$233.24

$$219(.065) = 14.24$$

$$219 + 14.24 =$$

10. jeans: \$39.99  
discount: 15%  
sales tax: 4% \$35.35

$$39.99(.15) = 6 \quad 39.99 - 6 = 33.99$$

$$33.99(.04) = 1.36 \quad 33.99 + 1.36$$

11. book: \$19.95  
discount: 5%  
sales tax: 5% \$19.90

$$19.95(.05) = 1.00$$

$$19.95 - 1 = 18.95$$

$$18.95(.05) = .95$$

12. tickets: \$52.50  
sales tax: 7% \$56.18

$$52.50(.07) = 3.68$$

$$52.50 + 3.68 =$$

13. skates: \$99.99  
 discount: 20%  
 sales tax: 6.75%

$\$85.39$

$$99.99(.2) = 20$$

$$\begin{array}{r} -20 \\ 79.99 \end{array} (.0675) = 5.40$$

15. CD: \$15.88  
 sales tax: 4.5%

$\$16.59$

$$15.88(.045) = .71$$

$$15.88 + .71$$

14. boots: \$59.00  
 discount: 10%  
 sales tax: 5.5%

$\$50.18$

$$59(.1) = 5.90 \quad 53.10 - 2.92$$

$$\begin{array}{r} -5.9 \\ 53.10 \end{array} (.055) = 2.92$$

16. software: \$29.99  
 discount: 6%  
 sales tax: 6.75%

$\$30.09$

$$29.99(.06) = 1.80 \quad 28.19 + 1.90$$

$$\begin{array}{r} -1.80 \\ 28.19 \end{array} (.0675) = 1.90$$

**Directions:** Solve the following problems. Show all work. Circle your answer.

17. The World Future Society predicts that by the year 2020, airplanes will be able to carry 1400 passengers. Today's biggest jets can carry 600 passengers. What will be the percent of increase of airplane passengers?

$$1400 - 600 = 800$$

$$\frac{800}{600} = \frac{p}{100}$$

$$600p = 80000$$

133% increase

$$p = 133.\bar{3}$$

18. In 1995, America Online had about 3,000,000 users. Over the next decade, users are expected to increase from a few million to the tens of millions. Suppose the number of users increases by 150% by the year 2000. How many users will there be in the year 2000?

$$3(1.5) = 4.5$$

$$3 + 4.5 = 7.5$$

About 7,500,000 users in 2000.

19. Music Systems, Inc. allows a 10% discount if a purchase is paid for within 30 days. An additional 5% discount is given if the purchase is paid for within 15 days. Brent Goodson buys a sound system that originally cost \$360. If he pays the entire amount at the time of purchase, how much does he pay for his system after the successive discounts?

$$360(.10) = 36$$

$$324(.05) = 16.2$$

$$360 - 36 = 324$$

$$324 - 16.2 = 307.8$$

He will pay \$307.80

20. As soon as a new car is purchased and driven away from the dealership, it begins to lose its value, or depreciate. Alonso bought a 1994 Plymouth Neon for \$9559. One year later, the value of the car was \$8500. What was the percent of decrease of the value of the car?

$$9559 - 8500 = 1059$$

$$\frac{1059}{9559} = \frac{p}{100}$$

About an 11% decrease

$$105900 = 9559p$$

$$11.07856 = p$$

#5, 6, 8

Solve each problem below using your knowledge of percent and proportions, sale price and discount, simple interest, straight commission, sales tax and percent change.

1. A blouse that regularly sells for \$28.50 is on sale for one-third off. What is the sale price of the dress?

$$28.50 \left(\frac{1}{3}\right) = 9.5 \quad 28.50 - 9.50 = 19.00 \quad \underline{\$19.00}$$

2. If 14 out of 24 students in a college class are men, then, to the nearest tenth of a percent, what percent of the class is composed of men?

$$\frac{14}{24} = \frac{P}{100} \quad 1400 = 24P \quad \underline{58.3\%}$$

$$58.3 = P$$

3. A volleyball team won 90% of 80 games played. How many games did they win?

$$\frac{90}{100} = \frac{W}{80} \quad 7200 = 100W \quad \underline{72 \text{ won}}$$

$$72 = W$$

4. At Murky Middle School, 372 students ride the bus to school. If this number is 60% of school enrollment, then how many students are enrolled at the school?

$$\frac{60}{100} = \frac{372}{E} \quad 60E = 37200 \quad \underline{620 \text{ Students}}$$

$$E = 620$$

5. Sheila deposited \$1,050.00 into a saving account at her local bank. If the interest rate is 1.5%, then how much will he have after 18 months (Round your answer to the nearest cent)?

$$1050 (.015) \left(\frac{18}{12}\right) = 23.63 \quad \underline{\$1073.63}$$

6. At the Phoney Interior Design Store each salesperson receives a 7.5% commission on sales. What would a salesperson earn if she sold \$1,750 in home furnishings?

$$1750 (.075) = 131.25 \quad \underline{\$131.25 \text{ com}}$$

7. The cost of annual tuition at a university increased from 10,500 to \$11,300. What is the percent increase in tuition to the nearest tenth of a percent?

$$11300 - 10500 = 800 \quad \frac{800}{10500} = P(10,500) \quad P = .07619 \quad \underline{7.6\% \text{ inc.}}$$

8. Freddie owes \$12,500 for a loan to be repaid in 5.5 years. If the interest rate is 4.375%, then how much will he pay altogether to the nearest cent?

$$12,500 (5.5) (.04375) = 3007.8125 \quad \underline{\$15,507.81}$$

9. Last year a community had 32 incidents of vandalism. This year they had 23 incidents of vandalism. What was the percent of decrease rounded to the nearest percent?

$$32 - 23 = 9 \quad \frac{9}{32} = \frac{P}{100} \Rightarrow 900 = 32P \quad \underline{28\%}$$

10. If you purchase a DVD player that costs \$625, how much sales tax will you pay to the nearest cent if the rate is 7.375%?

$$625 (.07375) = 46.09375 \quad \underline{\$46.09}$$