

6.1 Practice A**Write the percent as a decimal.**

- | | | | |
|------------|-----------|----------|-----------|
| 1. 81% | 2. 78% | 3. 5% | 4. 8% |
| 5. 40% | 6. 60% | 7. 23.7% | 8. 16.75% |
| 9. 150% | 10. 210% | 11. 186% | 12. 416% |
| 13. 100.8% | 14. 5.17% | 15. 0.4% | 16. 0.04% |

17. Describe and correct the error in writing 1.475% as a decimal.

$\times \quad 1.475\% = \underbrace{1.475\%}_{\text{error}} = 147.5$

Write the decimal as a percent.

- | | | | |
|-----------|-----------|------------|-----------|
| 18. 0.66 | 19. 0.32 | 20. 0.51 | 21. 0.97 |
| 22. 0.01 | 23. 0.04 | 24. 0.312 | 25. 0.468 |
| 26. 0.5 | 27. 1.2 | 28. 1.08 | 29. 1.16 |
| 30. 0.003 | 31. 0.025 | 32. 0.0245 | 33. 2.025 |

34. Describe and correct the error in writing 1.8 as a percent.

$\times \quad 1.8 = \underbrace{1.8}_{\text{error}} = 18\%$

35. Fifty-four percent of the students in your class have moved at least one time. Write this percent as a decimal.
36. Only 0.15 of the total number of vehicles in your school parking lot are buses. What percent of the vehicles are buses?
37. You spent 0.88 of your allowance this week. What percent of your allowance did you spend?
38. On a history test, you get 86 out of a possible 100 points. Write a decimal and a percent that represent a score of 86 out of 100.
39. Of the fluids that you drink on a typical day, $\frac{1}{10}$ is milk and 50% is water. How many times more water do you drink than milk?

Write the percent as a fraction in simplest form and as a decimal.

- | | | | |
|---------|---------|---------|---------|
| 40. 21% | 41. 75% | 42. 64% | 43. 85% |
|---------|---------|---------|---------|

6.2 Practice A

Tell which number is greater.

1. $\frac{3}{4}$, 70%

2. $\frac{1}{2}$, 0.54

3. 0.21, 21%

4. $\frac{2}{3}$, 66%

5. 0.482, 49%

6. 16%, 0.108

7. $\frac{12}{25}$, 48%

8. $\frac{1}{10}$, 12%

9. 1.2, 11%

10. 58%, $\frac{31}{50}$

11. 5020%, $50\frac{1}{4}$

12. 12.25%, $\frac{1}{8}$

13. Describe and correct the error in comparing 0.7% and $\frac{17}{25}$.

$$\times \quad \frac{17}{25} = \frac{68}{100} = 0.68\%$$

0.7% is greater than 0.68%, so 0.7% is the greater number.

Use a number line to order the numbers from least to greatest.

14. 0.64, $\frac{13}{20}$, 63%

15. 45%, 0.46, $\frac{11}{25}$

16. 0.12, $\frac{1}{8}$, 0.135, 13%

17. $\frac{15}{16}$, 90%, 0.925, $\frac{7}{8}$, 0.93

18. $3\frac{2}{3}$, 362%, 3.66, $3\frac{3}{5}$, 36

19. 0.3, 27.3%, $\frac{11}{40}$, 28%, 0.27

20. You use 8 fluid ounces of fruit juice in a recipe to make 64 fluid ounces of fruit punch. A fruit punch you can buy at the store has 10% real fruit juice. Which has a higher percent of fruit juice?
21. While shooting baskets at a basketball hoop, you make 36 out of 80 shots. Your friend makes 43.75% of the shots. Who made a higher percent?
22. To earn a bonus in a video game, you must find at least 60% of the hidden gems. You find 25 out of 40 gems. Do you get the bonus? Explain.
23. The table shows the portion of students at a middle school that are in each grade. Order the grades from the least to the greatest number of students.

| Grade | 6 | 7 | 8 |
|---------------------|-------------------|--------|-----------------|
| Portion of students | $33\frac{1}{3}\%$ | 0.3125 | $\frac{17}{48}$ |

6.3 Practice A

Use a model to estimate the answer to the question. Use a ratio table to check your answer.

1. What number is 20% of 40?
2. 12 is what percent of 50?
3. 42 is 60% of what number?
4. What number is 150% of 92?

Write and solve a proportion to answer the question.

5. 40% of what number is 15?
6. 24 is 0.6% of what number?
7. What percent of 75 is 27?
8. 17 is what percent of 68?
9. Of the 60 seeds that you plant, 80% germinate. How many seeds germinate?
10. You are charged 6% sales tax. You purchase a new bicycle and pay \$27 in sales tax. What is the purchase price of the bicycle?

Write and solve a proportion to answer the question.

11. 0.2 is what percent of 16?
12. 19.6 is 24.5% of what number?
13. $\frac{3}{5}$ is 30% of what number?
14. What number is 45% of $\frac{5}{9}$?
15. You are making 28 name badges for a committee. You complete 75% of these on Monday. How many do you have left to complete on Tuesday?
16. You and your friend are selling tickets for the orchestra concert. On Thursday, you sold 15 tickets and your friend sold 10 tickets.
 - a. What percent of the tickets sold on Thursday did you sell?
 - b. On Friday, you sold 9 tickets and your friend sold 16 tickets. What percent of the tickets sold on Friday did you sell?
 - c. What percent of the total tickets sold on Thursday and Friday did you sell?

6.4 Practice A

Answer the question. Explain the method you chose.

1. 24 is what percent of 60? 2. 8 is 40% of what number?

Write and solve an equation to answer the question.

3. What number is 70% of 120? 4. 30 is what percent of 120?
5. 112 is 56% of what number? 6. 128 is what percent of 80?
7. What number is 140% of 45? 8. 15 is 6% of what number?
9. There are 35 competitors in a marathon. Sixty percent of these finished the race in under four hours. How many competitors finished the race in under four hours?
10. Your class is going on a field trip. Twenty-four students have turned in their permission slips so far. This is 80% of the students in the class. How many students are in the class?
11. You take a test with 32 questions on it. You answer 24 questions correctly. What percent of the questions do you answer correctly?
12. You have r rare coins, consisting of p pennies and n nickels.
- a. p is 20% of 190. How many pennies do you have?
- b. 190 is 200% of r . How many rare coins do you have?
- c. n is 60% of r . How many nickels do you have?
13. The table shows the sales receipt for your purchase.
- a. The items with a "T" next to the price are subject to sales tax. What percent sales tax did you pay?
- b. Calculate the price of the top.
- c. The price you paid for the top was 60% of the original price. What was the original price of the top?

| Item | Price |
|-----------------|-----------|
| top | p |
| earrings | \$ 3.00 T |
| socks | \$ 2.00 |
| granola bar | \$ 0.50 T |
| Subtotal | \$13.00 |
| Tax | \$ 0.21 |
| Total | \$13.21 |

Tell whether the following statement is true or false.

Explain your reasoning.

14. 120% of a whole number is always greater than the number.
15. You can find 0.5% of a number by multiplying the number by $\frac{5}{100}$.

6.5 Practice A**Find the new amount.**

1. 12 dogs decreased by 25%
2. 140 fluid ounces increased by 45%
3. 100 textbooks increased by 99%
4. 75 students decreased by 80%

Identify the percent of change as an *increase* or a *decrease*. Then find the percent of change. Round to the nearest tenth of a percent, if necessary.

5. 5 cups to 8 cups
6. 150 pounds to 135 pounds
7. 14 dollars to 10 dollars
8. 28 seconds to 23 seconds
9. $\frac{1}{3}$ to $\frac{2}{3}$
10. $\frac{1}{3}$ to $\frac{1}{6}$
11. Yesterday your bus ride to school took 10 minutes. Today your bus ride took 12 minutes. What is the percent of change?
12. Yesterday 270 concert tickets were sold. Today 216 tickets were sold.
 - a. Find the percent of change in the number of tickets sold from yesterday to today.
 - b. Use the percent of change from part (a) to predict the number of tickets sold tomorrow. Round to the nearest ticket, if necessary.
 - c. Find the predicted percent of change in the number of tickets sold from yesterday to tomorrow. Round to the nearest tenth of a percent, if necessary.
13. This month a band has 6 musicians. This is a 50% increase from the number of musicians in the band last month. How many musicians were in the band last month?
14. The sides of a square garden are 8 feet long.
 - a. You enlarge the garden to create a 25% increase in the length of each side. Find the new length of the sides.
 - b. Find the percent of change in the perimeter of the garden. Round to the nearest tenth of a percent, if necessary.
 - c. Find the percent of change in the area of the garden. Round to the nearest tenth of a percent, if necessary.

6.6 Practice A

Copy and complete the table.

| | Original Price | Percent of Discount | Sale Price |
|----|----------------|---------------------|------------|
| 1. | \$75 | 30% | |
| 2. | \$18 | 65% | |
| 3. | | 30% | \$42 |
| 4. | | 55% | \$90 |
| 5. | \$35 | | \$28 |
| 6. | \$55 | | \$46.75 |

Find the cost to store or selling price.

7. Cost to store: \$65
Markup: 25%
Selling price: ?
8. Cost to store: ?
Markup: 80%
Selling price: \$122.40
9. The cost to a store for a box of cereal is \$2.50. The store is selling the box of cereal for \$3.50. What is the percent of markup?
10. A store pays \$120 for a bicycle.
- The store has a 60% markup policy. What is the selling price of the bicycle?
 - The store is now going out of business and is selling all of the bicycles at a 30% discount. What is the sale price of the bicycle?
 - Will the store make money or lose money on the bicycle? How much?
11. The selling price of a skateboard is \$147. The store has a 75% markup policy. What is the cost of the skateboard to the store?
12. You buy a watch for \$60.
- There is a 6% sales tax. What is your total cost for the watch?
 - Your friend buys the same watch a month later. It is now sold at a discount of 15%. What is the new sale price?
 - What is your friend's total cost for the watch including tax?
 - What is the percent of change in the total cost?



6.7 Practice A

An account earns simple interest. (a) Find the interest earned. (b) Find the balance of the account.

1. \$200 at 3% for 5 years
2. \$750 at 8% for 2 years
3. \$1600 at 5% for 1 year
4. \$500 at 12% for 6 months

Find the annual interest rate.

5. $I = \$18$, $P = \$150$, $t = 6$ years
6. $I = \$164.50$, $P = \$940$, $t = 2.5$ years

Find the amount of time.

7. $I = \$72$, $P = \$600$, $r = 4\%$
8. $I = \$174$, $P = \$1450$, $r = 8\%$
9. You deposit \$350 in a savings account. The account earns 2.5% simple interest per year. What is the balance after 2 years?

Find the amount paid for the loan.

10. \$1000 at 8% for 5 years
11. \$3500 at 10% for 2 years
12. You deposit \$2000 in a savings account earning 5% simple interest. How long will it take for the balance of the account to be \$3800?
13. Your parents charge a family ski trip of \$3000 on a credit card.
 - a. The simple interest rate is 20%. The charges are paid after 6 months. What is the amount of interest paid?
 - b. What is the total amount paid for the ski trip?
14. Your parents could have taken out a loan for the ski trip in Exercise 13.
 - a. The simple interest rate is 6% and the time for the loan is 2 years. What would have been the total amount paid for the \$3000 ski trip?
 - b. What would be the monthly payment, if there were equal monthly payments?
 - c. Which loan option costs less, the credit card or the loan?
15. You deposit \$1200 in an account earning 8% simple interest.
 - a. What is the account balance after 1 year?
 - b. At the end of the first year, you deposit the balance of the account in a CD (certificate of deposit) earning 8% simple interest. What is the account balance after another year?