Pg. 194-195 #2, 5-19 odd, 20, 23, 25, 27, 29

2. no; The order of the quantities is important. Two apples for every 3 oranges is *not* the same as 3 apples for every 2 oranges.

5. Seats

Fans

7. 6 to 4, or 6 : 4; For every 6 basketballs, there are 4 soccer balls.

9. 3 to 7, or 3 : 7; For every 3 shirts, there are 7 pants.

11. 8 to 15, or 8 : 15; 8 out of 15 movies are comedies.

13. 15 to 3, or 15 : 3; Out of 15 movies, 3 are dramas.

15. 9 h

17. 12 : 16

19. 6 black pieces; The ratio of black to red is 3 : 5, so each part is $16 \div 8 = 2$. So, there are $3 \cdot 2 = 6$ black pieces and $5 \cdot 2 = 10$ red pieces.

20. 8; The ratio of boys to girls is 5 : 7, so each part is $48 \div 12 = 4$. So, there are $5 \cdot 4 = 20$ boys and $7 \cdot 4 = 28$ girls.

23. 4 pints of soda water, 8 pints of fruit punch concentrate, 20 pints of ginger ale; Yes; *Sample answer:* There is twice as much fruit punch as soda water (as in the original ratio). There is 5 times as much ginger ale as soda water (as in the original ratio).

25. 4.6

27. 2.53

29. B

Pg. 201-203 #5-25 odd

5. The ratio of ladybugs to bees can be described by 12 : 4, 6 : 2, or 3 : 1.

7.

Violins	8	24
Cellos	3	9

8 : 3 and 24 : 9

9.

Burgers	3	6	9
Hot dogs	5	10	15

3 : 5, 6 : 10, and 9 : 15

11.

Forks	16	8	48
Spoons	10	5	30

16 : 10, 8 : 5, and 48 : 30

13.

You	3	6	9	12
Friend	4	8	12	16

16 tickets

15.

First	100	10	60
Second	60	6	36

$60

17. Adding the same number, 5 in this case, to each part of the ratio does not create equivalent ratios. You can add corresponding parts of equivalent ratios to create new equivalent ratios.

Sample answer:

A	3	6	9
B	7	14	21

19. 28 basketballs

21. Add the corresponding quantities of Recipes B and D to create Recipe E.

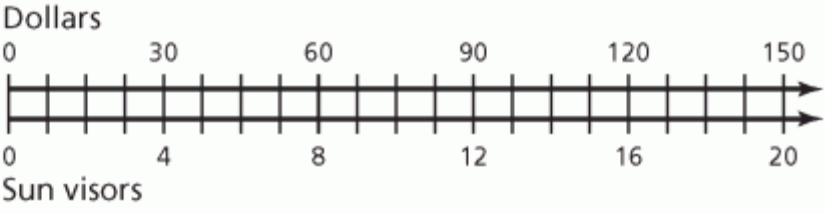
23. Subtract the corresponding quantities of Recipe B from Recipe C to create Recipe A.

25. *Sample answer:* Add the corresponding quantities of Recipes B and F to create a batch with 11 servings.

Pg. 208-209 #1, 2, 5-10, 12, 15-21 odd, 24

1. *Sample answer:* You walk at a rate of 2 blocks per minute, so you walk 12 blocks in 6 minutes.
2. What is the cost per dozen bagels?; \$15; \$1.25
5. *Sample answer:* 4 inches for every 12 years
6. *Sample answer:* 150 gallons for every 25 seconds
7. \$7 per week
8. 6 necklaces per hour
9. 45 miles per hour
10. 19 students per class
12. 110 calories per serving
15. 100 times per second
17. \$20
19. equivalent
21. not equivalent
24. **a.** \$112.50

    b.



    \$120

Pg 217 #1-11

1. 3 to 2, or 3 : 2; For every 3 tulips, there are 2 lilies.
2. 8 to 4, or 8 : 4; For every 8 crayons, there are 4 markers.
3.

Shoes	7	28	49
Boots	2	4	14

7 : 2, 28 : 4, and 49 : 14

4.

Trains	3	12	18
Airplanes	8	32	48

3 : 8, 12 : 32, and 18 : 48

5. *Sample answer:* 20 liters for every 6 minutes
6. *Sample answer:* 15 tickets for every 60 points
7. 2 touchdowns per game
8. 3 text messages per minute
9. 20 entries per contest
10. 3 questions per minute
11. $60

Pg. 214-215 #2, 3-15 all, 19-22

2. You; The graph that represents your earnings is steeper, so you have a greater hourly wage.

3. A

4. A

5. B

6. A

7. A

8. B

9. B

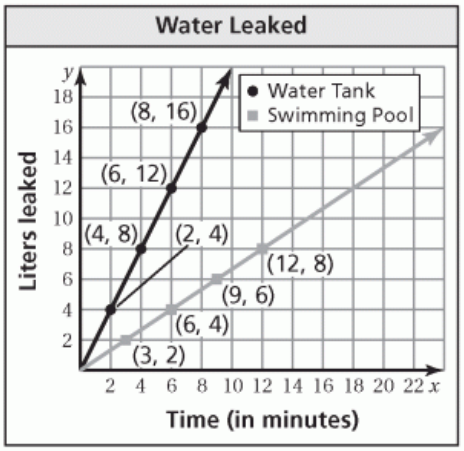
10. B

11. the first recipe

12.

Water Tank	
Time (min)	Liters Leaked
2	4
4	8
6	12
8	16

Swimming Pool	
Time (min)	Liters Leaked
3	2
6	4
9	6
12	8

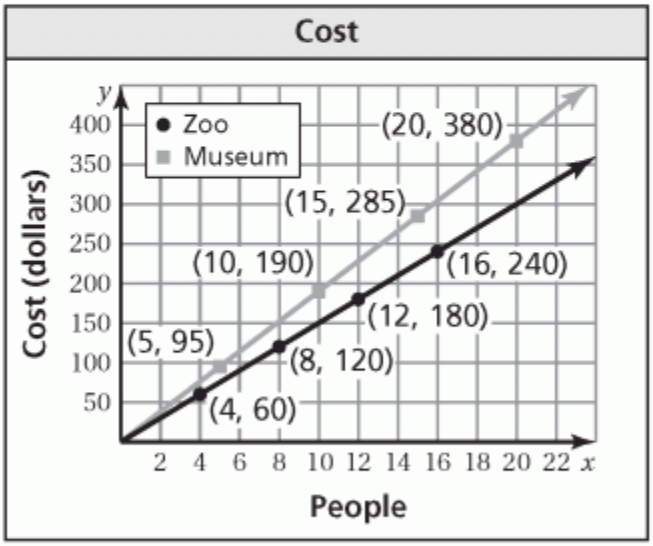


Both graphs begin at (0, 0). The graph for the water tank is steeper, so the water tank leaks faster than the swimming pool.

13.

Zoo	
People	Cost (dollars)
4	60
8	120
12	180
16	240

Museum	
People	Cost (dollars)
5	95
10	190
15	285
20	380



Both graphs begin at (0, 0). The graph for the museum is steeper, so the cost to attend the museum is greater than the cost to attend the zoo.

14. whole milk

15. See *Taking Math Deeper*.

19. 16

20. 18 R26

21. 34 R109

22. B

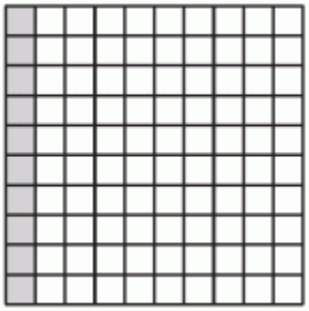
Pg. 222 #2, 3-19 Odd, 20, 21-31 Odd

2. 0.01, because it is equal to 1%, and the others are equal to 10%.

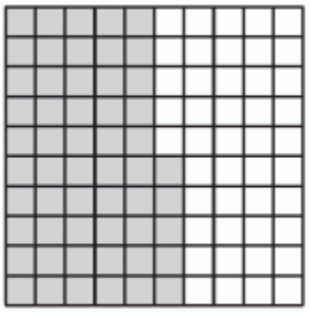
3. *Sample answer:* $\frac{3}{20}, \frac{23}{100}, \frac{1}{8}$

4. yes; You can rewrite $1\frac{1}{4}$ as the improper fraction $\frac{125}{100}$, which is equal to 125%.

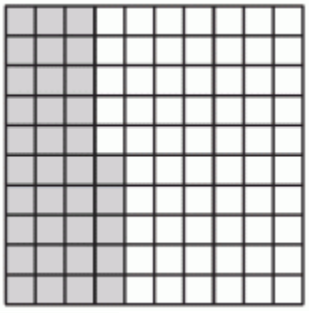
5.



6.



7.



8. $\frac{9}{20}$

9. $\frac{9}{10}$

10. $\frac{3}{20}$

11. $\frac{7}{100}$

12. $\frac{17}{50}$

13. $\frac{79}{100}$

14. $\frac{31}{40}$

15. $1\frac{22}{25}$

16. $\frac{2}{25}$

17. $2\frac{6}{25}$

18. $\frac{1}{400}$

19. $\frac{1}{250}$

20. The 225 should be over 100.

$225\% = \frac{225}{100} = \frac{9}{4} = 2\frac{1}{4}$

21. 10%

22. 20%

23. 55%

24. 8%

25. 54%

26. 72%

27. 185%

28. 282%

29. The decimal point should not have been added to the percent expression.

$$\frac{14}{25} = \frac{14 \times 4}{25 \times 4} = \frac{56}{100} = 56\%$$

30. $\frac{3}{25}$; right-handed students; If $\frac{3}{25}$ of the students are left-handed, then $\frac{22}{25}$ of the students are right-handed and $\frac{22}{25} > \frac{3}{25}$.

31. $\frac{5}{4}$; No, you have more than you need.

Name Answers Date

Chapter 5 - Study Guide

Section 5.1- Ratios (Learning Target: I can understand the concept of ratios and use ratios to describe the relationship between two quantities)

Use the table to write the ratio. Explain what the ratio means.

Marble	Number
Blue	8
Red	4
Purple	6

1) Red to purple

$\frac{4}{6} = \frac{2}{3}$

For every 2 red marbles, there are 3 purple.

2) Blue to red

$\frac{8}{4} = \frac{2}{1}$

For every 2 blue marbles, there is 1 red one.

3) Purple to marbles

$\frac{6}{18} = \frac{1}{3}$

For every purple marble, there is a total of 3 marbles.

4) There are 22 events at an indoor track and field meet. The ratio of track events to field events is 8 : 3. How many of the events are track events?

Track: 2 2 2 2 2 2 2 2 } 11 total

Field: 2 2 2

$\frac{22}{11} = 2$

There are a total of 16 field events.

Section 5.2- Ratio Table (Learning Target: I can use ratio tables to find equivalent ratios and solve real life problems)

Find the missing value(s) in the ratio table. Then write the equivalent ratios.

5)

Basketballs	5	10
Footballs	10	20

$\frac{5}{10}, \frac{10}{20}$

6)

Regular	2	8	32
Decaf	3	12	48

$\frac{2}{3} \quad \frac{8}{12} \quad \frac{32}{48}$

7) You read 3 chapters every hour. You read for 3 hours after school. How many chapters did you read?

$\frac{3 \text{ chapters}}{1 \text{ hour}} = \frac{9 \text{ chapters}}{3 \text{ hours}}$

Section 5.3- Rates (Learning Target: I can understand concepts of rates and unit rates and solve real-life problems.)

Write a unit rate for the situation.

8) 9 strikes in 3 innings

$\frac{9 \text{ strikes}}{3 \text{ inning}} = \boxed{\frac{3 \text{ strikes}}{1 \text{ inning}}}$

9) 88 points in 11 minutes

$\frac{88 \text{ pts}}{11 \text{ min}} = \boxed{\frac{8 \text{ pts}}{1 \text{ min}}}$

Decide whether the rates are equivalent. Show all work showing how you figured it out.

10) 30 beats per 20 seconds,
90 beats per 60 seconds

$\frac{30 \text{ beats}}{20 \text{ seconds}}$ $\frac{90 \text{ beats}}{60 \text{ seconds}}$

$\frac{90 \text{ beats}}{60 \text{ seconds}} = \frac{90 \text{ beats}}{60 \text{ seconds}}$

Equivalent

11) 15 pages in 20 minutes,
10 pages in 15 minutes

$\frac{15 \text{ pgs}}{20 \text{ min}}$ $\frac{10 \text{ pgs}}{15 \text{ min}}$

$\frac{45 \text{ pgs}}{60 \text{ min}}$ $\frac{40 \text{ pgs}}{60 \text{ min}}$

Not equivalent

Section 5.4- Comparing and Graphing Ratios (Learning Target: I can compare ratios and unit rates.)

Determine which is the better buy.

12)

Movie Rental	A	B
Cost (dollars)	12	11
Rentals	4	3

$\frac{\$12}{4}$ $\frac{\$11}{3}$

$\frac{\$36}{12}$ $\frac{\$44}{12}$

A

13)

Buns	A	B
Cost (dollars)	6	5
Packages	3	2

$\frac{\$6}{3}$ $\frac{\$5}{2}$

$\frac{\$12}{6}$ $\frac{\$15}{6}$

A

14) You are making cookies. One recipe calls for 5 cups of chocolate morsels for 3 batches of cookies. A second recipe calls for 6 cups of chocolate morsels for 4 batches of cookies. Which cookies will contain more chocolate morsels?

$\frac{5 \text{ cups}}{3 \text{ batches}} = \frac{20 \text{ cups}}{12 \text{ batches}}$ $\frac{6 \text{ cups}}{4 \text{ batches}} = \frac{18 \text{ cups}}{12 \text{ batches}}$ The first batch

Section 5.5- Percents (Learning Target: I can write fractions as percents and percents as fractions and mixed numbers)

Write the fraction or mixed number as a percent.

15.) $2\frac{6}{10} = \frac{26}{10} = \frac{260}{100} = 260\%$

16.) $\frac{18}{25} = \frac{72}{100} = 72\%$

Write the percent as a fraction.

17.) $35\% = \frac{35}{100} = \frac{7}{20}$

18.) $174\% = \frac{174}{100} = 1\frac{74}{100} = 1\frac{37}{50}$