

7 - Exercises - Chapter 1

Name Answer Key
Hour _____

Lesson 1.1 Practice

Rates

Find each unit rate. Round to the nearest hundredth if necessary.

1. 18 people in 3 vans

6 people per van

2. \$156 for 3 books

\$52 per book

3. 115 miles in 2 hours

57.5 miles per hour

4. 2,500 calories in 24 hours

104.17 calories per hour

Choose the lower unit price.

5. \$12.95 for 3 pounds of nuts or \$21.45 for 5 pounds of nuts

\$21.45 for 5 lbs.

6. A 32-ounce bottle of apple juice for \$2.50 or a 48-ounce bottle for \$3.84

32-ounce for \$2.50

Lesson 1.2 Practice

Complex Fractions and Unit Rates

Simplify.

7. $\frac{\frac{3}{1}}{\frac{1}{3}}$

9

8. $\frac{\frac{4}{2}}{\frac{9}{2}}$

$\frac{2}{9} = 0.\bar{2}$

9. $\frac{\frac{10}{7}}{\frac{8}{8}}$

$11\frac{3}{7}$

10. $\frac{\frac{3}{10}}{\frac{7}{5}}$

$1.4 = 1\frac{2}{5}$

11. $\frac{\frac{4}{5}}{\frac{9}{10}}$

$\frac{8}{9} = 0.\bar{8}$

12. $\frac{\frac{3}{5}}{\frac{3}{10}}$

2

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Lesson 1.3 Practice

Converting Units

Convert each rate.

10 mi/hr = _____ ft/hr (1 mile = 5280 feet)

$$52,800 \text{ ft/hr}$$

13. 35 cm/sec = _____ cm/min

$$2,100 \text{ cm/min}$$

14. Tina walks at a rate of 180 feet per minute. How many feet per second does Tina walk?

$$3 \text{ feet per second}$$

Lesson 1.4 Practice

Proportional and Nonproportional Relationships

15. A photo developer charges \$0.25 per photo developed. Is the total cost proportional to the number of photos developed?

Yes, the relationship is proportional.
They have a equivalent ratio of \$0.25 per
1 photo.

16. A soccer club has 15 players for every team, with the exception of two teams that have 16 players each. Is the number of total players proportional to the number of teams?

No, it is not proportional. The ratios are
not equivalent.

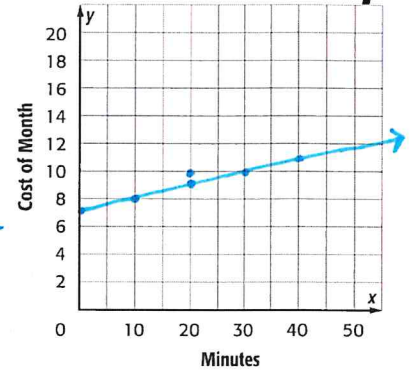
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Lesson 1.5 Practice

17. Shontell spends \$7 a month plus \$0.10 per minute. Determine whether the cost per month is proportional to the number of minutes by graphing on the coordinate plane.

It is not proportional. It does not go through the origin.

Graph Proportional Relationships



Lesson 1.6 Practice Solve Proportional Relationships

Determine whether each pair of ratios forms a proportion.

18. $\frac{8}{12}, \frac{10}{15}$

Yes, proportional

19. $\frac{6}{9}, \frac{2}{18}$

No, not proportional

20. $\frac{7}{15}, \frac{12}{32}$

No, not proportional

21. $\frac{7}{9}, \frac{49}{63}$

Yes, proportional

Solve each proportion.

22. $\frac{5}{8} = \frac{s}{12}$

$s = 7.5$

23. $\frac{3}{4} = \frac{12}{c}$

$c = 16$

24. $\frac{6}{9} = \frac{10}{r}$

$r = 15$

25. $\frac{16}{24} = \frac{z}{15}$

$z = 10$

26. $\frac{5}{8} = \frac{s}{12}$

$s = 7.5$

27. $\frac{14}{t} = \frac{10}{11}$

$t = 15.4$

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Lesson 1.7 Practice

Find the constant rate of change.

28.

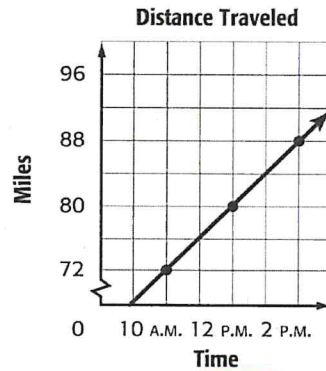
Side Length	Perimeter
1	4
2	8
3	12
4	16

$$\frac{4}{1}$$

the perimeter goes up by 4 every time the side length increases

Constant Rate of Change

29.



$$\frac{4}{1}$$

4 miles for every hour

Lesson 1.8 Practice

Slope

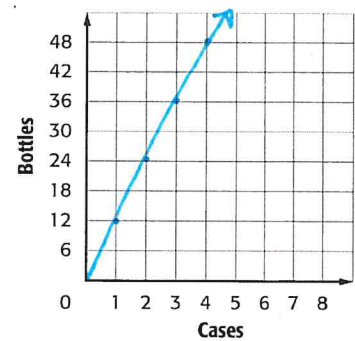
Graph the data. Then find the slope of the line. Explain what the slope represents.

30. The table shows the number of juice bottles per case.

Cases	1	2	3	4
Juice Bottles	12	24	36	48

$$12$$

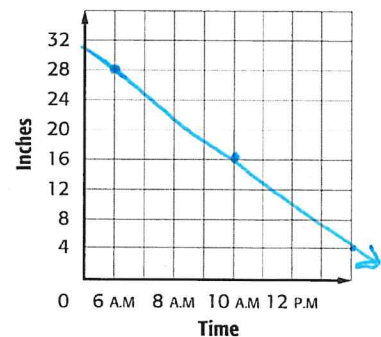
12 bottles of juice are in every case.



31. At 6 AM, the retention pond had 28 inches of water in it.

The water receded so that at 10 AM, there were 16 inches of water later.

$\frac{-3}{4}$ Every 4 hours the water recedes 3 in.



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Lesson 1.9 Practice

Direct Variation

32. Wilhema bought 6 bars of soap for \$12. The next day, Sophia bought 10 bars of the same kind of soap for \$20. What is the cost of 1 bar of soap?

1 bar is \$2

33. Franklin is cooking a 3-pound turkey breast for 6 people. If the number of pounds of turkey varies directly with the number of people, make a table to show the number of pounds of turkey for 2, 4, and 8 people.

pounds	1	2	3	4
people	2	4	6	8