

Ready to Go On?



4.1 Unit Rates

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

1. \$140 for 18 ft² _____ 2. 14 lb for \$2.99 _____

Circle the better deal in each pair. Then give the unit rate for the better deal.

3. $\frac{\$56}{25 \text{ gal}}$ or $\frac{\$32.05}{15 \text{ gal}}$ _____ 4. $\frac{\$160}{5 \text{ g}}$ or $\frac{\$315}{9 \text{ g}}$ _____

4.2 Constant Rates of Change

5. The table shows the amount of money Tyler earns for mowing lawns. Is the relationship a proportional relationship? Why or why not?

Number of Lawns	1	2	3	4
Amount Earned (\$)	15	30	48	64

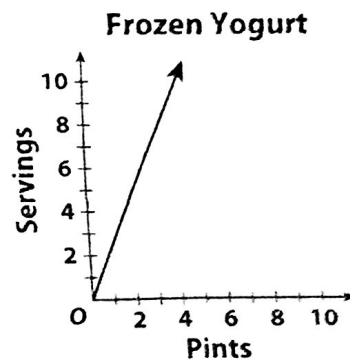
6. On a recent day, 8 euros were worth \$9 and 24 euros were worth \$27. Write an equation of the form $y = kx$ to show the relationship between the number of euros and the value in dollars.

_____, where y is dollars and x is euros

4.3 Proportional Relationships and Graphs

7. The graph shows the number of servings in different amounts of frozen yogurt listed on a carton. Write an equation that gives the number of servings y in x pints.

8. A refreshment stand makes 2 large servings of frozen yogurt from 3 pints. Add the line to the graph and write its equation.



ESSENTIAL QUESTION

9. How can you use rates to determine whether a situation is a proportional relationship?

6.1 Algebraic Expressions

1. The Science Club went on a two-day field trip. The first day the members paid \$60 for transportation plus \$15 per ticket to the planetarium. The second day they paid \$95 for transportation plus \$12 per ticket to the geology museum. Write an expression to represent the total cost for two days for the n members of the club. _____

6.2 One-Step Equations with Rational Coefficients

Solve.

2. $h + 9.7 = -9.7$ _____

3. $-\frac{3}{4} - p = \frac{1}{2}$ _____

4. $-15 = -0.2k$ _____

5. $\frac{y}{-3} = \frac{1}{6}$ _____

6. $-\frac{2}{3}m = -12$ _____

7. $2.4 = -\frac{t}{25}$ _____

6.3 Writing Two-Step Equations

8. Jerry started doing sit-ups every day. The first day he did 15 sit-ups. Every day after that he did 2 more sit-ups than he had done the previous day. Today Jerry did 33 sit-ups. Write an equation that could be solved to find the number of days Jerry has been doing sit-ups, not counting the first day.

6.4 Solving Two-Step Equations

Solve.

9. $5n + 8 = 43$ _____

10. $\frac{y}{6} - 7 = 4$ _____

11. $2w - 15 = 57$ _____

12. $\frac{g}{3} + 11 = 25$ _____

13. $\frac{f}{5} - 22 = -25$ _____

14. $-4p + 19 = 11$ _____

2 | ESSENTIAL QUESTION

15. How can you use two-step equations to represent and solve real-world problems?

MODULE QUIZ

Ready to Go On?



Personal
Math Trainer
Online Assessment
and Intervention

7.1 Writing and Solving One-Step Inequalities

Solve each inequality.

- $n + 7 < -3$ _____
- $5p \geq -30$ _____
- $14 < k + 11$ _____
- $\frac{d}{-3} \leq -6$ _____
- $c - 2.5 \leq 2.5$ _____
- $12 \geq -3b$ _____
- Jose has scored 562 points on his math tests so far this semester. To get an A for the semester, he must score at least 650 points. Write and solve an inequality to find the minimum number of points he must score on the remaining tests in order to get an A.

7.2 Writing Two-Step Inequalities

- During a scuba dive, Lainey descended to a point 20 feet below the ocean surface. She continued her descent at a rate of 20 feet per minute. Write an inequality you could solve to find the number of minutes she can continue to descend if she does not want to reach a point more than 100 feet below the ocean surface.

7.3 Solving Two-Step Inequalities

Solve.

- $2s + 3 > 15$ _____
- $-\frac{d}{12} - 6 < 1$ _____
- $-6w - 18 \geq 36$ _____
- $\frac{z}{4} + 22 \leq 38$ _____
- $\frac{b}{9} - 34 < -36$ _____
- $-2p + 12 > 8$ _____

ESSENTIAL QUESTION

- How can you recognize whether a real-world situation should be represented by an equation or an inequality?



Expressions and Equations

Module Quiz: D

1. What is the solution to the equation below?

$$0.5x = 6$$

- A 3
B 12
C 60

2. Alyson opened a savings account with \$100. She saves \$50 per month. Which of the following equations can be used to find how much money she has in her account after x months?

- A $100 + 50x = y$
B $50 + 100x = y$
C $600 + 50x = y$

3. What is the value of y that satisfies the equation below?

$$\frac{y}{2} = 9$$

- A 4.5
B 9
C 18

4. Ed earns a \$100 commission on each computer he sells plus a base salary of \$50,000. His total income last year was \$75,000. Which equation can be used to find how many computers Ed sold last year?

- A $50,000 + 100x = 75,000$
B $50,000 - 100x = 75,000$
C $75,000 + 100x = 50,000$

5. Jason pays a \$100 installation fee and a \$40 monthly service charge for his telephone. Which equation shows the amount that Jason pays for x months of telephone service?

- A $y = 40 + 100x$
B $y = 100 + 40x$
C $y = 100 - 40x$

6. There are 60 members in the school glee club. The glee club needs to raise \$5,000 for a trip to a national competition. The school agreed to contribute \$1,000 toward the trip. Which of the equations below shows the amount of money that each glee club member needs to raise to help pay for the trip?

- A $60x + 1,000 = 5,000$
B $60x + 5,000 = 1,000$
C $1,000x + 60 = 5,000$

7. Which of the following shows the simplification of $0.5 \times (4a + 6b)$ using the Distributive Property?

- A $2a + 3b$
B $3a + 2b$
C $4.5a + 6.5b$

8. Which of the following ratios is equivalent to 1:2?

- A $\frac{2}{4}$
B $\frac{3}{5}$
C $\frac{4}{6}$

9. Which of the following values does **not** satisfy the equation $x - 2 = 3.5$?

- A $5\frac{1}{2}$
B 5.5
C 1.5

10. Colton's Gym charges an initiation fee of \$40 plus a monthly fee of \$50. Which of the equations below shows the cost c of joining the gym for m months?

- A $c = 50 + 40m$
B $c = 40 + 50m$
C $c = 40 - 50m$