LESSON 3.8

NAME _____ DATE _____

Standardized Test Practice

For use with pages 177–182

TEST TAKING STRATEGY **Before you give up on a question, try to eliminate some of your choices so you can make an educated guess.**

1. ***Multiple Choice*** Which would be the correct unit rate for \$3 for 12 cards?

Ⓐ \$3 per card Ⓑ 3 cards per dollar

Ⓒ \$.25 per dozen Ⓓ \$.25 per card

Ⓔ None of these

2. ***Multiple Choice*** Which model would you use to change 12 minutes to seconds?

Ⓐ $12 \text{ min} \cdot \frac{1 \text{ min}}{60 \text{ sec}}$ Ⓑ $12 \text{ min} \cdot \frac{60 \text{ sec}}{1 \text{ min}}$

Ⓒ $12 \text{ min} \cdot \frac{60 \text{ min}}{1 \text{ sec}}$ Ⓓ $12 \text{ min} \cdot \frac{1 \text{ sec}}{60 \text{ min}}$

Ⓔ None of these

3. ***Multiple Choice*** Find the average speed of a person boating 126 miles in 5 hours.

Ⓐ 25.2 miles Ⓑ 25.2 mi/h

Ⓒ 630 mi/h Ⓓ 3.9 mi/h

Ⓔ 3.9 hours per mile

4. ***Multiple Choice*** Convert 250 pesos to dollars. The exchange rate is 9.99 pesos per United States dollar.

Ⓐ \$2497.50 Ⓑ \$259.99

Ⓒ \$25.03 Ⓓ \$240.01

Ⓔ \$30.02

5. ***Multiple Choice*** Which model would you use to convert 35 miles per hour to feet per second?

Ⓐ $35 \text{ mi/h} \times \frac{5280 \text{ ft}}{1 \text{ mile}} \times \frac{60 \text{ min}}{1 \text{ h}}$

Ⓑ $35 \text{ mi/h} \times \frac{1 \text{ mile}}{5280 \text{ ft}} \times \frac{1 \text{ h}}{60 \text{ min}}$

Ⓒ $35 \text{ mi/h} \times \frac{5280 \text{ ft}}{1 \text{ mile}} \times \frac{1 \text{ h}}{360 \text{ sec}}$

Ⓓ $35 \text{ mi/h} \times \frac{5280 \text{ ft}}{1 \text{ mile}} \times \frac{1 \text{ h}}{3600 \text{ sec}}$

Ⓔ $35 \text{ mi/h} \times \frac{5280 \text{ ft}}{1 \text{ mile}} \times \frac{1 \text{ h}}{60 \text{ min}}$

6. ***Multiple Choice*** Write the ratio 128 to 24 in simplest form.

Ⓐ 5 Ⓑ $\frac{64}{12}$

Ⓒ $\frac{32}{6}$ Ⓓ $\frac{16}{3}$

Ⓔ $\frac{15}{3}$

7. ***Multiple Choice*** A kennel has 15 cats and 24 dogs. What is the ratio of dogs to cats?

Ⓐ $\frac{8}{5}$ Ⓑ $\frac{24}{15}$

Ⓒ $\frac{6}{3}$ Ⓓ $\frac{5}{3}$

Ⓔ $\frac{3}{2}$

8. ***Multiple Choice*** What does the unit conversion factor $\frac{12 \text{ inches}}{1 \text{ foot}}$ equal?

Ⓐ 12 Ⓑ $\frac{1}{12}$

Ⓒ 1 Ⓓ cannot be determined

Ⓔ None of these

9. ***Multi-Step Problem*** You're a stocker at a grocery store. The store received a shipment of 500 heads of lettuce. You sample 50 heads of lettuce and found that 4 heads were brown.

a. Write a ratio that would estimate the number of heads of lettuce in the shipment that were brown.

b. Use the ratio from above to estimate the number of brown heads in the shipment.

c. The store has a policy of accepting any shipment of produce if damaged produce is 7% or less of the shipment. Should you reject or accept this shipment?

Chapter 3

LESSON 11.1

NAME _____ DATE _____

Standardized Test Practice

For use with pages 633–638

TEST TAKING STRATEGY **Some questions involve more than one step. Reading too quickly might lead to mistaking the answer to a preliminary step for your final answer.**

1. ***Multiple Choice*** What are the means of the proportion $\frac{5}{8} = \frac{10}{16}$?

(A) 5 and 8 (B) 5 and 16

(C) 5 and 10 (D) 8 and 16

(E) 8 and 10

2. ***Multiple Choice*** Which of the following is the solution of $\frac{5}{16} = \frac{x}{12}$?

(A) $6\frac{2}{3}$ (B) $\frac{4}{15}$ (C) $3\frac{3}{4}$

(D) $3\frac{1}{2}$ (E) $1\frac{1}{16}$

3. ***Multiple Choice*** Which of the following is the solution of $\frac{4}{3x} = \frac{14}{21}$?

(A) 2 (B) $\frac{1}{2}$ (C) 8

(D) $\frac{1}{8}$ (E) 9

4. ***Multiple Choice*** Which of the following is the solution of $\frac{2x}{5} = \frac{40}{x}$?

(A) 25 (B) 50 (C) 4.5

(D) 10 (E) 20

5. ***Multiple Choice*** Which of the following is the solution of $\frac{x-2}{10} = \frac{x}{15}$?

(A) $\frac{2}{5}$ (B) 6 (C) -6

(D) $-\frac{2}{5}$ (E) 7

6. ***Multiple Choice*** Which of the following is a solution of $\frac{-3}{y-3} = \frac{y}{-6}$?

(A) 3 (B) -6 (C) 6

(D) 2 (E) 4

7. ***Multiple Choice*** You are looking at a map to see how much further it is to your destination. The distance on the map is 1.6 inches. If the map has a scale of 1 mile is $\frac{1}{32}$ of an inch, how much further do you have to go?

(A) 51.2 miles (B) 15.6 miles

(C) 23.4 miles (D) 20.0 miles

(E) 57.5 miles

8. ***Multiple Choice*** Rangers caught and banded 50 golden eagles at a wildlife reserve. Later, the researchers caught 200 golden eagles, 17 of which had bands. Estimate the total golden eagle population at the reserve.

(A) 500 (B) 526 (C) 350

(D) 588 (E) 376

Quantitative Comparison In Exercises 9–11, solve the proportion. Then choose the statement below that is true about the given number.

(A) The value in column A is greater.

(B) The value in column B is greater.

(C) The two values are equal

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
9.	$\frac{3}{x} = \frac{10}{12}$	$\frac{2x+1}{14} = \frac{7}{9}$
10.	$\frac{x+7}{15} = \frac{x}{6}$	$\frac{x+2}{3} = \frac{1}{x}$
11.	$\frac{x+2}{10} = \frac{x}{x+3}$	$\frac{x-3}{x} = \frac{6}{2x+5}$

Chapter 11

LESSON 5.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 277–282

TEST TAKING STRATEGY **Go back and check as much of your work as you can.**

1. ***Multiple Choice*** What is an equation of the line that passes through points $(2, 3)$ and $(-1, 4)$?

(A) $y = 3x - \frac{11}{3}$ (B) $y = -\frac{1}{3}x - \frac{11}{3}$

(C) $y = -3x + \frac{11}{3}$ (D) $y = -\frac{1}{3}x + \frac{11}{3}$

(E) $y = -\frac{1}{3}x + 3$

2. ***Multiple Choice*** What is an equation of the line that passes through the points $(-3, 5)$ and $(2, 15)$?

(A) $y = 2x + 11$ (B) $y = 2x - 11$

(C) $y = -2x + 11$ (D) $y = \frac{1}{2}x + 11$

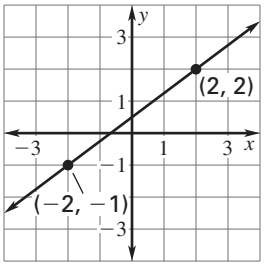
(E) $y = -\frac{1}{2}x - 11$

3. ***Multiple Choice*** What is the slope of the line parallel to the line $y = \frac{1}{2}x - 6$?

(A) 2 (B) $-\frac{1}{2}$ (C) -2

(D) $\frac{1}{2}$ (E) $\frac{1}{6}$

4. ***Multiple Choice*** Write an equation of the line shown in the graph.



(A) $y = -\frac{3}{4}x + \frac{1}{2}$ (B) $y = \frac{4}{3}x + \frac{1}{2}$

(C) $y = \frac{3}{4}x - \frac{1}{2}$ (D) $y = \frac{4}{3}x - \frac{1}{2}$

(E) $y = \frac{3}{4}x + \frac{1}{2}$

5. ***Multiple Choice*** Which set of lines are parallel?

(A) $y = 2x + 3$; $y = -2x + 6$

(B) $y = \frac{1}{3}x$; $y = -3x + 2$

(C) $y = \frac{2}{3}x + \frac{1}{2}$; $y = \frac{2}{3}x - 2$

(D) $y = -6x + 1$; $y = -\frac{1}{6}x - 1$

(E) $y = 3$; $y = x + 1$

6. ***Multiple Choice*** Which lines are parallel?

Line d passes through $(2, 4)$ and $(-1, 6)$.

Line e passes through $(-3, -2)$ and $(5, 8)$.

Line f passes through $(6, -4)$ and $(3, -2)$.

(A) Lines d and e (B) Lines d and f

(C) Lines e and f

(D) All three are parallel

(E) None of these

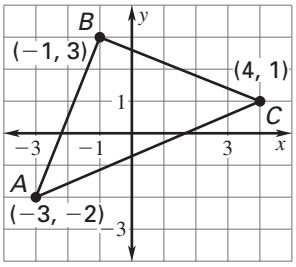
7. ***Multiple Choice*** Which is an equation of a line parallel to the line $y = -\frac{3}{2}x + \frac{1}{2}$?

(A) $y = -\frac{2}{3}x + 6$ (B) $y = \frac{2}{3}x + 3$

(C) $y = \frac{3}{2}x - \frac{1}{2}$ (D) $y = -\frac{2}{3}x - \frac{1}{2}$

(E) $y = -\frac{3}{2}x - 2$

8. ***Quantitative Comparison*** In Exercises 8–10, use the lines that form part of the sides of the triangle shown below and choose the statement that is true about the given number.



(A) The number in column A is greater.

(B) The number in column B is greater.

(C) The two numbers are equal.

(D) The relationship cannot be determined from the information given.

	Column A	*Column B*
8.	The slope of line containing $\overline{AC}$	The slope of line containing $\overline{BC}$
9.	The slope of line containing $\overline{AB}$	The slope of line containing $\overline{BC}$
10.	The y-intercept of line containing $\overline{AB}$	The y-intercept of line containing $\overline{BC}$

LESSON 7.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 402–408

TEST TAKING STRATEGY **Think positively during a test. This will help keep up your confidence and enable you to focus on each question.**

1. ***Multiple Choice*** Order the steps below to solve the system of equations using linear combinations.

$2x + 5y = 7$ Equation 1

$4y - 3x = 16$ Equation 2

I. Substitute the known variable into either of the original equations. Solve for the remaining unknown variable.

II. Multiply Equation 1 by 3 and Equation 2 by 2.

III. Multiply Equation 1 by 3 and Equation 2 by -2.

IV. Arrange the equations with like terms in columns.

V. Add the equations, combine like terms to eliminate one variable, and solve for the remaining variable.

Ⓐ I, II, III, IV Ⓑ IV, II, V, I

Ⓒ II, IV, I, V Ⓓ IV, III, V, I

Ⓔ II, IV, I, V

2. ***Multiple Choice*** Solve the system of linear equations using linear combinations.

$5x + 3y = 26$

$-2x + 3y = -2$

Ⓐ $(6, -1)$ Ⓑ $(-4, -2)$ Ⓒ $(2, 5)$

Ⓓ $(4, 2)$ Ⓔ $(7, -3)$

3. ***Multiple Choice*** If $3x + 2y = 8$ and $-4x + 3y = -5$, then $x + y =$ ___?___.

Ⓐ 6 Ⓑ 8 Ⓒ 7

Ⓓ 5 Ⓔ 3

4. ***Multiple Choice*** If $2y - 3 = 5x$ and $y = \frac{2}{3}x + 7$, then $xy =$ ___?___.

Ⓐ 12 Ⓑ 25 Ⓒ 27

Ⓓ 18 Ⓔ 14

5. ***Multiple Choice*** Two hunters start from different points in the woods and hike towards their campsite. The first hunter travels a trail along the line $2y - x = 24$. The second hunter's trail follows the line $3y = -2x - 18$. They meet at the campsite. What are the coordinates of the site?

Ⓐ $\left(-\frac{108}{7}, \frac{30}{7}\right)$ Ⓑ $\left(-\frac{30}{7}, \frac{108}{7}\right)$

Ⓒ $(-13, 2)$ Ⓓ $(-14, 5)$

Ⓔ $\left(-\frac{120}{7}, \frac{48}{7}\right)$

6. ***Multi-Step Problem*** A fish swims 12 miles downstream in 2 hours. The fish swims back upstream to the same point, but the trip takes 3 hours. Assume the speed of the current was constant and the fish swam along the same path.

a. Write a system of linear equations to describe the situation.

b. Determine the speed of the fish in still water.

c. Determine the speed of the current.

d. ***Writing*** If the speed of the current was not constant, could you still calculate the speed of the fish in still water?

Chapter 7

LESSON 7.5

NAME _____ DATE _____

Standardized Test Practice

For use with pages 417–422

TEST TAKING STRATEGY **Avoid spending too much time on one question. Skip questions that are too difficult for you and spend no more than a few minutes on each question.**

1. ***Multiple Choice*** How many solutions does the linear system have?

$y = \frac{3}{2}x + 8$

$6x - 4y = 16$

(A) None (B) Exactly one

(C) Two (D) Infinitely Many

(E) Cannot be determined

2. ***Multiple Choice*** How many solutions does the linear system have?

$x = 3$

$y = -2$

(A) None (B) Exactly one

(C) Two (D) Infinitely Many

(E) Cannot be determined

3. ***Multiple Choice*** How many solutions does the linear system have?

$6x - 2y = 14$

$y = 3x - 9$

(A) None (B) Exactly one

(C) Two (D) Infinitely Many

(E) Cannot be determined

4. ***Multiple Choice*** What is the solution of the system of linear equations?

$y = \frac{1}{2}x + 8$

$2x + y = 18$

(A) $(-4, -10)$ (B) $(4, 10)$ (C) (2.5)

(D) No solution (E) Cannot be determined

5. ***Multiple Choice*** What is the solution of the system of linear equations?

$5x - 2y = 16$

$y = \frac{5}{2}x - 10$

(A) $(2, -3)$ (B) $(4, 2)$

(C) $(0, -8)$ (D) No solution

(E) Infinitely many

6. ***Multiple Choice*** How many solutions does the graph below have?

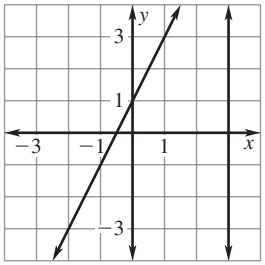
(A) None

(B) Exactly one

(C) Two

(D) Infinitely many

(E) Cannot be determined



Quantitative Comparison In Exercises 7–9, solve the linear system. Then choose the statement below that is true about the solution of the system.

(A) The number of solutions in column A is greater.

(B) The number of solutions in column B is greater.

(C) The number of solutions are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
7.	$y = \frac{1}{2}x + 2$ $-x + 2y = 4$	$x + y = 7$ $3x + 4y = 16$
8.	$y = 3x + 6$ $y = 3x - 2$	$-3x + 2y = 2$ $y = \frac{3}{2}x + 6$
9.	$5x = 10$ $y = -7$	$7x + 2y = 12$ $14x - 24 = -4y$

Chapter 7

LESSON 7.4

NAME _____ DATE _____

Standardized Test Practice

For use with pages 409–414

TEST TAKING STRATEGY **Go back and check as much of your work as you can.**

1. ***Multiple Choice*** Your class is selling wrapping paper and candles for a fund raiser. Rolls of wrapping paper sell for \$5 and candles sell for \$4 each. A total of 526 items were sold and \$2327 was raised. How many of each item was sold?

Ⓐ 220 rolls, 306 candles

Ⓑ 223 rolls, 303 candles

Ⓒ 326 rolls, 200 candles

Ⓓ 200 rolls, 326 candles

Ⓔ 215 rolls, 311 candles

2. ***Multiple Choice*** The manual for your boat engine calls for 91 octane gas. The gas stations by your house only sell 87 and 93 octane. If the boat's tank holds 30 gallons, how many gallons of each should you buy for a 91 octane mix?

Ⓐ 15 gallons of 87 and 15 gallons of 93.

Ⓑ 12 gallons of 87 and 18 gallons of 93.

Ⓒ 10 gallons of 87 and 20 gallons of 93.

Ⓓ 20 gallons of 87 and 10 gallons of 93.

Ⓔ 18 gallons of 87 and 12 gallons of 93.

3. ***Multiple Choice*** You went snow skiing for 6 hours. You skied at an average rate of 30 miles per hour and the ski lift took you back up the hill at a rate of 10 miles per hour. If your overall average rate was 23 miles per hour, how many hours did you actually spend skiing?

Ⓐ 4 Ⓑ 3.5 Ⓒ 3.9

Ⓓ 3.1 Ⓔ 4.5

4. ***Multiple Choice*** You are taking a test worth 130 points. There are a total of 50 five-point and two-point questions. How many five-point questions are on the test?

Ⓐ 15 Ⓑ 5 Ⓒ 20

Ⓓ 12 Ⓔ 10

5. ***Multiple Choice*** At what point do the lines $12x - 3y = 9$ and $y = -\frac{3}{2}x + 8$ intersect?

Ⓐ $(8, 9)$ Ⓑ $(1, 4)$

Ⓒ $\left(\frac{30}{33}, \frac{21}{33}\right)$ Ⓓ $(2, 5)$ Ⓔ $(2, 4)$

6. ***Multiple Choice*** A school has two soccer seasons. There are currently 30 students playing on the spring team and participation is increasing by 2 students per year. There are currently 19 students playing on the fall team and this is increasing by 3 students per year. When will the teams be the same size?

Ⓐ 12 years Ⓑ 14 years

Ⓒ 10 years Ⓓ 11 years

Ⓔ 8 years

Quantitative Comparison In Exercises 7–9, solve the linear system. Then choose the statement below that is true about the solution of the system.

Ⓐ The value of x is greater than the value of y.

Ⓑ The value of y is greater than the value of x.

Ⓒ The values of x and y are equal.

Ⓓ The relationship cannot be determined from the given information.

7. $2x + 5y = -16$

$-\frac{2}{3}x - \frac{1}{2}y = -1$

8. $3y = 10x - 14$

$y = \frac{3}{2}x - 1$

9. $8y - 3x = 31$

$3x + 5y = 34$

Chapter 7

LESSON 7.2

NAME _____ DATE _____

Standardized Test Practice

For use with pages 396–401

TEST TAKING STRATEGY **Before you give up on a question, try to eliminate some of your choices so you can make an educated guess.**

1. ***Multiple Choice*** Use the substitution method to determine the solution of the system of linear questions.

$x + y = 8$ $\quad y = 3x$

Ⓐ $(1, 7)$ Ⓑ $(2, 6)$

Ⓒ $(-2, -6)$ Ⓓ $(-1, -7)$

Ⓔ $(3, 5)$

2. ***Multiple Choice*** Use the substitution method to determine the solution of the system of linear equations.

$x + 2y = -6$ $\quad 2x - y = 8$

Ⓐ $(-2, -2)$ Ⓑ $(-4, 2)$

Ⓒ $(2, -4)$ Ⓓ $\left(-\frac{22}{5}, -\frac{26}{5}\right)$

Ⓔ $(-10, 1)$

3. ***Multiple Choice*** Use the substitution method to determine the solution of the system of linear equations.

$3x + 4y = 16$ $\quad -3x + 2y = 8$

Ⓐ $(4, 0)$ Ⓑ $(1, 4)$

Ⓒ $(-2, 5)$ Ⓓ $(-2, 1)$

Ⓔ $(0, 4)$

4. ***Multiple Choice*** Which point lies on the graph of the system?

$4x + y = 23$ $\quad x - y = 2$

Ⓐ $(3, 5)$ Ⓑ $(5, 3)$

Ⓒ $(4, 7)$ Ⓓ $(-2, 1)$

Ⓔ $(0, 4)$

5. ***Multiple Choice*** Which point lies on the graph of the system?

$y = x - 9$ $\quad x + 2y = 0$

Ⓐ $(6, -3)$ Ⓑ $(-3, 6)$

Ⓒ $(5, -4)$ Ⓓ $(8, -1)$

Ⓔ $(6, 3)$

6. ***Multiple Choice*** The ordered pair $(6, -8)$ is a solution of which system of equations?

Ⓐ $3x + 2y = 4$, $x - y = 14$ Ⓑ $x - 2y = 22$, $y = \frac{4}{5}x - 10$

Ⓒ $7x + 3y = 18$, $x - y = -2$ Ⓓ $2x + y = 4$, $-x - y = 2$

Ⓔ $y = -x - 2$, $4x - 2y = 8$

7. ***Multiple Choice*** If $5x - 3y = 1$ and $x - 2y = -4$, then $xy =$ ___?___.

Ⓐ 5 Ⓑ 4 Ⓒ 6

Ⓓ 8 Ⓔ 9

Quantitative Comparison In Exercises 8–10, solve the linear system. Then choose the statement below that is true about the solution of the system.

Ⓐ The value of x is greater than the value of y.

Ⓑ The value of y is greater than the value of x.

Ⓒ The values of x and y are equal.

Ⓓ The relationship cannot be determined from the given information.

8. $3x + y = 8$

$-4x - 3y = -9$

9. $5x + 2y = 28$

$y = \frac{1}{2}x + 2$

10. $3y = 2x + 1$

$7x - y = -13$

Chapter 7

LESSON 5.4

NAME _____ DATE _____

Standardized Test Practice

For use with pages 283–289

TEST TAKING STRATEGY **Think positively during a test. This will help keep up your confidence and enable you to focus on each question.**

1. ***Multiple Choice*** Write $y = \frac{3}{7}x - 2$ in standard form with integer coefficients.

Ⓐ $7y = 3x - 14$ Ⓑ $-3x + 7y = -2$

Ⓒ $-3x + 7y = 14$ Ⓓ $3x - 7y = 14$

Ⓔ $3x - 7y = -14$

2. ***Multiple Choice*** What is the standard form of an equation of the line that passes through the point $(-1, 5)$ and has a slope of $\frac{1}{2}$?

Ⓐ $x - 2y = -9$ Ⓑ $x + 2y = 9$

Ⓒ $x + 2y = -11$ Ⓓ $x + 2y = 11$

Ⓔ $x - 2y = -11$

3. ***Multiple Choice*** What is the standard form of an equation of the line that passes through the point $(-8, -2)$ and has a slope of -5?

Ⓐ $5x + y = 42$ Ⓑ $5x + y = -42$

Ⓒ $5x + y = -38$ Ⓓ $5x - y = 38$

Ⓔ $5x + y = -18$

4. ***Multiple Choice*** What is the standard form of an equation of the line that passes through the points $(-1, 4)$ and $(-7, -5)$?

Ⓐ $y - 4 = \frac{3}{2}(x + 1)$

Ⓑ $3x + 2y = 11$

Ⓒ $-3x + 2y = 11$

Ⓓ $-3x + 2y = -5$

Ⓔ $3x + 2y = -5$

5. ***Multiple Choice*** What is the standard form of an equation of the line that passes through the points $(3, 0)$ and $(6, -8)$?

Ⓐ $8x + 3y = 24$ Ⓑ $y = -\frac{8}{3}x + 8$

Ⓒ $8x + 3y = 8$ Ⓓ $3x + 8y = 64$

Ⓔ $8x + 3y = -24$

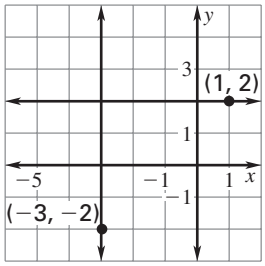
6. ***Multiple Choice*** What is the standard form of an equation of the horizontal line that passes through the point $(2, -8)$?

Ⓐ $y = 2$ Ⓑ $x = 2$

Ⓒ $y = -8$ Ⓓ $x = -8$

Ⓔ $y = 0$

7. ***Multiple Choice*** What is the standard form of an equation of the vertical line in the graph?



Ⓐ $y = -2$ Ⓑ $x = -3$

Ⓒ $y = 2$ Ⓓ $x = 1$

Ⓔ $y = -3$

Quantitative Comparison In Exercises 8–10, choose the statement below that is true about the given number.

Ⓐ The number in column A is greater.

Ⓑ The number in column B is greater.

Ⓒ The two numbers are equal.

Ⓓ The relationship cannot be determined from the given information.

	Column A	*Column B*
8.	The constant term in $3x + 2y = 7$	A in the standard form of $5x + 8y = 7$
9.	The x-intercept of $3x - 2y = -10$	The y-intercept of $2x + 5y = 6$
10.	The slope of $x = -6$	The slope of $12x + 3y = 16$

LESSON 4.5

NAME _____ DATE _____

Standardized Test Practice

For use with pages 227–233

TEST TAKING STRATEGY **Spend no more than a few minutes on each question.**

1. ***Multiple Choice*** Which is the formula to find the slope of a line?

Ⓐ $m = \frac{x_2 - x_1}{y_2 - y_1}$ Ⓑ $m = \frac{y_2 + y_1}{x_2 + x_1}$

Ⓒ $m = \frac{y_2 - y_1}{x_2 - x_1}$ Ⓓ $m = \frac{x_2 + x_1}{y_2 - y_1}$

Ⓔ $m = \frac{y_2 - x_2}{y_1 - x_1}$

2. ***Multiple Choice*** Find the slope of the line passing through the points (5, 8) and (9, 4).

Ⓐ 3 Ⓑ 1 Ⓒ $\frac{3}{4}$

Ⓓ -1 Ⓔ $\frac{4}{3}$

3. ***Multiple Choice*** Find the slope of the line passing through the points $(-6, 7)$ and (2, 9).

Ⓐ $\frac{1}{4}$ Ⓑ -2 Ⓒ 4

Ⓓ -4 Ⓔ $-\frac{1}{2}$

4. ***Multiple Choice*** Find the slope of the line passing through the points (3, 4) and $(-2, 4)$.

Ⓐ undefined Ⓑ 0 Ⓒ 8

Ⓓ $\frac{8}{5}$ Ⓔ $\frac{5}{8}$

5. ***Multiple Choice*** Find the slope of the line passing through the points $(7, -2)$ and (7, 9).

Ⓐ undefined Ⓑ 0 Ⓒ $\frac{11}{14}$

Ⓓ $\frac{1}{2}$ Ⓔ 2

6. ***Multiple Choice*** Find the value of y so that the line passing through (2, 6) and $(1, y)$ has a slope of 5.

Ⓐ $\frac{5}{29}$ Ⓑ 9 Ⓒ $\frac{27}{5}$

Ⓓ -1 Ⓔ 1

7. ***Multiple Choice*** Find the value of x so that the line passing through (10, 5) and $(x, 9)$ has a slope of -2.

Ⓐ 2 Ⓑ -2 Ⓒ 8

Ⓓ -8 Ⓔ -17

8. ***Multiple Choice*** In 1989, a movie ticket cost \$3.00. In 1999, a movie tickets cost \$5.50. Find the average rate of change of movie tickets price in dollars per year.

Ⓐ \$.20 Ⓑ \$.25 Ⓒ \$.30

Ⓓ \$.85 Ⓔ \$4.00

Quantitative Comparison In Exercises 9–12, choose the statement that is true about the given number.

Ⓐ The number in column A is greater.

Ⓑ The number in column B is greater.

Ⓒ The two numbers are equal.

Ⓓ The relationship cannot be determined from the information given.

	Column A	*Column B*
9.	The slope of the line through (6, 6) and (10, 8)	The slope of the line through (5, 8) and (17, 14)
10.	The slope of the line through (3, 6) and (5, 3)	0
11.	The slope of the line through (1, 3) and (8, 10)	The slope of the line through (12, 6) and (18, 0)
12.	The slope of the line through $(5, y)$ and (7, 3)	The slope of the line through (4, 8) and $(x, 14)$

LESSON 9.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 511–517

TEST TAKING STRATEGY **Some questions involve more than one step. Reading too quickly might lead to mistaking the answer to a preliminary step for your final answer.**

1. ***Multiple Choice*** Which one of the following is the simplified form of $\sqrt{192}$?

Ⓐ $3\sqrt{4}$ Ⓑ $3\sqrt{8}$ Ⓒ $4\sqrt{3}$
Ⓓ $8\sqrt{3}$ Ⓔ $4\sqrt{12}$

2. ***Multiple Choice*** Which one of the following is the simplified form of $\frac{1}{3}\sqrt{450}$?

Ⓐ $\frac{5}{3}\sqrt{18}$ Ⓑ $\frac{2}{3}\sqrt{15}$ Ⓒ $5\sqrt{2}$
Ⓓ $12\sqrt{2}$ Ⓔ $3\sqrt{50}$

3. ***Multiple Choice*** Which one of the following is the simplified form of $-5\sqrt{20} \cdot \frac{\sqrt{10}}{\sqrt{30}}$?

Ⓐ $-15\sqrt{15}$ Ⓑ $-5\sqrt{\frac{20}{3}}$
Ⓒ $-\frac{5}{3}\sqrt{20}$ Ⓓ $-15\sqrt{60}$
Ⓔ $\frac{-10}{3}\sqrt{15}$

4. ***Multiple Choice*** Which one of the following is the simplified form of $\frac{\sqrt{30} \cdot \sqrt{18}}{3\sqrt{5}}$?

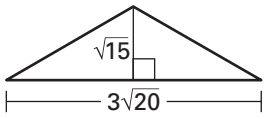
Ⓐ $2\sqrt{3}$ Ⓑ $\frac{2\sqrt{15}}{3}$ Ⓒ 6
Ⓓ $6\sqrt{5}$ Ⓔ $2\sqrt{5}$

5. ***Multiple Choice*** Solve $7x^2 - 9 = 16$, writing the answer as a simplified radical expression.

Ⓐ ± 3.57 Ⓑ $\pm 7\sqrt{5}$ Ⓒ $\pm\frac{5}{\sqrt{7}}$
Ⓓ $\pm\frac{5\sqrt{7}}{7}$ Ⓔ $\pm\frac{7\sqrt{5}}{5}$

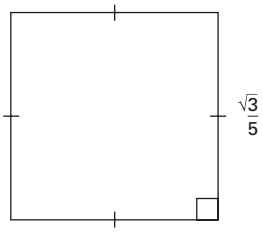
6. ***Multiple Choice*** Find the area of the triangle using the formula $A = \frac{1}{2}bh$.

Ⓐ $3\sqrt{15}$
Ⓑ $15\sqrt{3}$
Ⓒ $\frac{13}{2}\sqrt{2}$
Ⓓ $5\sqrt{3}$
Ⓔ $3\sqrt{5}$



7. ***Multiple Choice*** Find the area of a square whose side measures $\frac{\sqrt{3}}{5}$.

Ⓐ $\frac{1}{25}\sqrt{3}$
Ⓑ $25\sqrt{3}$
Ⓒ $9\sqrt{5}$
Ⓓ $\frac{3}{25}$
Ⓔ $\frac{9}{25}$



Quantitative Comparison In Exercises 8–11, perform the indicated operation and simplify the result. Then choose the statement below that is true about the given numbers.

Ⓐ The number in column A is greater.
Ⓑ The number in column B is greater.
Ⓒ The numbers are equal.
Ⓓ The relationship cannot be determined from the given information.

	Column A	*Column B*
8.	$\sqrt{6} \cdot \sqrt{-12}$	$\sqrt{\frac{72}{4}}$
9.	$4\sqrt{\frac{5}{4}}$	$18\sqrt{\frac{2}{9}}$
10.	$2\sqrt{3} \cdot \sqrt{27}$	$\frac{3\sqrt{3}}{\sqrt{25}} \cdot 2\sqrt{75}$
11.	$-\frac{1}{2}\sqrt{18} \cdot \frac{1}{3}\sqrt{12}$	$-3\sqrt{6} \cdot \frac{2}{3}\sqrt{18}$

Chapter 9

LESSON 12.2

NAME _____ DATE _____

Standardized Test Practice

For use with pages 716–721

TEST TAKING STRATEGY **Work as fast as you can through the easier problems, but not so fast that you are careless.**

1. ***Multiple Choice*** Simplify the expression $\sqrt{500} - \sqrt{180} + \sqrt{80}$.

(A) $12\sqrt{2}$ (B) $5\sqrt{8}$ (C) $20\sqrt{5}$

(D) $8\sqrt{5}$ (E) 20

2. ***Multiple Choice*** The conjugate of $5 - \sqrt{3}$ is $\underline{?}$.

(A) $5 + \sqrt{3}$ (B) $5 - \sqrt{3}$

(C) $5 + \sqrt{-3}$ (D) $-5 - \sqrt{3}$

(E) $-5 + \sqrt{3}$

3. ***Multiple Choice*** Simplify the expression $\dfrac{18}{4 - \sqrt{7}}$.

(A) $72 + 18\sqrt{7}$ (B) $72 - 18\sqrt{7}$

(C) $\dfrac{72 - 18\sqrt{7}}{9}$ (D) $\dfrac{72 - 18\sqrt{7}}{9}$

(E) $8 + 2\sqrt{7}$

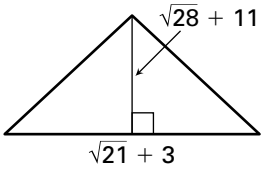
4. ***Multiple Choice*** Solve the quadratic equation $x^2 - 5x - 2 = 0$.

(A) $\dfrac{-5 \pm \sqrt{33}}{2}$ (B) $\dfrac{5 \pm \sqrt{33}}{2}$

(C) $\dfrac{5 \pm \sqrt{17}}{2}$ (D) $\dfrac{-5 \pm \sqrt{17}}{2}$

(E) $\dfrac{5 \pm \sqrt{31}}{2}$

5. ***Multiple Choice*** Find the area of the triangle below.



(A) $14\sqrt{3} + 17\sqrt{7} + 33$

(B) $7\sqrt{6} + 11\sqrt{21} + 6\sqrt{7} + 33$

(C) $14\sqrt{3} + 11\sqrt{21} + 6\sqrt{7} + 33$

(D) $2\sqrt{39} + 11\sqrt{21} + 7\sqrt{6} + 33$

(E) $24\sqrt{4} + 3\sqrt{28} + 11\sqrt{21} + 33$

6 ***Multiple Choice*** The area of a rectangle is $5 + \sqrt{3}$. If the length of one side is $2 + \sqrt{3}$, what is the length of the other side?

(A) $13 + 3\sqrt{3}$ (B) $7 + 7\sqrt{3}$

(C) $13 - 3\sqrt{3}$ (D) $7 + 3\sqrt{3}$

(E) $7 - 3\sqrt{3}$

Quantitative Comparison In Exercises 7–9, simplify the expression. Then choose the statement below that is true about the given number.

(A) The value in column A is greater.

(B) The value in column B is greater.

(C) The two values are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
7.	$(2 + \sqrt{6})(2 - \sqrt{6})$	$2\sqrt{3} \cdot \sqrt{12}$
8.	$\sqrt{75} - \sqrt{27}$	$\sqrt{72} - \sqrt{18}$
9.	$\dfrac{3}{\sqrt{5}} \cdot \dfrac{2\sqrt{15}}{3}$	$\dfrac{\sqrt{12}}{3} \cdot \dfrac{\sqrt{18}}{\sqrt{2}}$

Chapter 12

LESSON 12.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 704–709

TEST TAKING STRATEGY **Learn as much as you can about a test ahead of time, such as the types of questions and the topics that the test will cover.**

1. ***Multiple Choice*** Which of the following is a solution of $\sqrt{x} - 5 = 10$?

(A) 15 (B) 30 (C) 5.5
(D) 225 (E) 230

2. ***Multiple Choice*** Which of the following is a solution of $\sqrt{2x + 3} - 3 = 8$?

(A) 118 (B) 62 (C) 59
(D) 32 (E) 31

3. ***Multiple Choice*** Which of the following is a solution of $3 - \sqrt{2x - 1} = 5$?

(A) $\frac{2}{5}$ (B) $\frac{5}{2}$ (C) $\frac{3}{5}$
(D) $\frac{5}{3}$ (E) $\frac{3}{2}$

4. ***Multiple Choice*** Which of the following is a solution of $x = \sqrt{4x + 32}$?

(A) 8 (B) 4 (C) -4
(D) 8, 4 (E) 8, -4

5. ***Multiple Choice*** Which of the following is a solution of $x = \sqrt{2x + 48}$?

(A) 6 (B) 8 (C) -24
(D) -6 (E) -8

6. ***Multiple Choice*** Which of the following is a solution of $\sqrt{5 - 2x} - 1 = 0$?

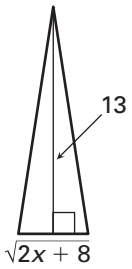
(A) 2 (B) -2 (C) 3
(D) -3 (E) 0

7. ***Multiple Choice*** Which of the following is a solution of $\sqrt{2x + 3} = x$?

(A) $-3, 1$ (B) -1 (C) 3
(D) $3, -1$ (E) 1

8. ***Multiple Choice*** What is the value of x in the triangle below whose area is 26?

(A) 1
(B) 2
(C) 3
(D) 4
(E) 5



9. ***Multiple Choice*** The square root of the product of two positive numbers is 6. One number is 9 less than the other. What are the numbers?

(A) 4, 8 (B) 3, 12 (C) 3, 6
(D) 6, 12 (E) 6, 8

Quantitative Comparison In Exercises 10–12, choose the statement below that is true about the given quantities.

(A) The quantity in column A is greater.
(B) The quantity in column B is greater.
(C) The two quantities are equal.
(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
10.	The solution of $\sqrt{-x} = -1$	The solution of $\sqrt{x} = 1$
11.	The solution of $\sqrt{x} + 5 = 3.$	The solution of $\sqrt{x + 5} = 3.$
12.	The solution of $\sqrt{x + 1} = 1$	The solution of $\sqrt{x - 1} = -1$

Chapter 12

LESSON 9.6

NAME _____ DATE _____

Standardized Test Practice

For use with pages 533–539

TEST TAKING STRATEGY **Go back and check as much of your work as you can.**

1. ***Multiple Choice*** Choose the correct form of the quadratic formula.

Ⓐ $x = \dfrac{b \pm \sqrt{b^2 + 4ac}}{2a}$

Ⓑ $x = \dfrac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

Ⓒ $x = \dfrac{-a \pm \sqrt{a^2 - 4bc}}{2a}$

Ⓓ $x = \dfrac{-c \pm \sqrt{b^2 - 4ac}}{2b}$

Ⓔ $x = \dfrac{-b \pm \sqrt{a^2 - 4bc}}{2a}$

2. ***Multiple Choice*** Choose the correct values of a, b, and c in the equation $5x^2 - x + 6 = 0$.

Ⓐ $a = 5,\ b = 1,\ c = 6$

Ⓑ $a = -5,\ b = -1,\ c = -6$

Ⓒ $a = 5,\ b = 0,\ c = 6$

Ⓓ $a = 5,\ b = -1,\ c = 0$

Ⓔ $a = 5,\ b = -1,\ c = 6$

3. ***Multiple Choice*** What are the x-intercepts of the graph of $y = 2x^2 - x - 15$?

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

Ⓓ $-5, 3$ Ⓔ $-5, \frac{15}{2}$

4. ***Multiple Choice*** Which of the following is a solution of $2x^2 - 3x - 5 = 0$?

Ⓐ 1 Ⓑ $-\frac{5}{2}$ Ⓒ $\frac{5}{2}$

Ⓓ $\frac{2}{5}$ Ⓔ 2

5. ***Multiple Choice*** Which of the following is a solution of $6x^2 - 7x - 5 = 0$?

Ⓐ $\frac{1}{2}$ Ⓑ $\frac{5}{3}$ Ⓒ -2

Ⓓ $-\frac{3}{5}$ Ⓔ -1

6. ***Multiple Choice*** Which of the following is a solution of $7x^2 + 5x + 8 = 10$?

Ⓐ $\frac{2}{7}$ Ⓑ 1 Ⓒ $\frac{7}{2}$

Ⓓ $-\frac{2}{7}$ Ⓔ $\frac{3}{7}$

7. ***Multiple Choice*** You drop a rock off a bridge 30 feet above the ground into a stream. How long does it take the rock to hit the water?

Ⓐ 1.45 sec Ⓑ 1.88 sec

Ⓒ 1.50 sec Ⓓ 2.10 sec

Ⓔ 1.37 sec

8. ***Multiple Choice*** An eagle circling a field at a height of 250 feet sees a rabbit below. The eagle dives at an initial speed of 110 feet per second. Estimate the time the rabbit has to escape.

Ⓐ 1.7 sec Ⓑ 1.8 sec

Ⓒ 1.6 sec Ⓓ 1.9 sec

Ⓔ 2.0 sec

9. ***Multi-Step Problem*** You are on a ski-lift 50 feet high. While the lift is stopped to let people off, you accidentally knock your keys out of your pocket. They fall off the seat towards the ground.

a. Write a vertical motion model for the path of the keys.

b. How long will it take for the keys to hit the ground?

c. ***Critical Thinking*** What factors would change the path of the dropped keys?

Chapter 9

LESSON 9.2

NAME _____ DATE _____

Standardized Test Practice

For use with pages 505–510

TEST TAKING STRATEGY **Work as fast as you can through the easier problems, but not so fast that you are careless.**

1. ***Multiple Choice*** Which quadratic equation is written in standard form?

   (A) $x^2 - 9 + x = 0$

   (B) $3x^2 + 5x + 1 = 0$

   (C) $7 - 4x^2 + 9 = 0$

   (D) $32 - 2x^2 = 0$

   (E) $2x - x^2 = 0$

2. ***Multiple Choice*** Consider the equation $6 - x^2 = 5x$. Which statement is correct?

   (A) The equation has exactly one solution.

   (B) The equation has two solutions.

   (C) The equation has three solutions.

   (D) The equation has no real solution.

   (E) The number of solutions cannot be determined.

3. ***Multiple Choice*** Solve $9x^2 - 4 = 0$.

   (A) $\frac{4}{9}$ (B) $\frac{2}{3}$ (C) $\pm\frac{2}{3}$

   (D) $\pm\frac{4}{9}$ (E) $-\frac{2}{3}$

4. ***Multiple Choice*** Solve $x^2 + \frac{1}{4} = \frac{1}{2}$.

   (A) $\pm\frac{1}{8}$ (B) $\pm\frac{1}{4}$ (C) $\pm\frac{1}{16}$

   (D) $\pm\frac{1}{2}$ (E) $\frac{1}{16}$

5. ***Multiple Choice*** An object is dropped from a height of 350 feet. To the nearest hundredth of a second, about how long does it take the object to hit the ground? Assume there is no air resistance.

   (A) 5.92 sec (B) 18.28 sec

   (C) 4.68 sec (D) 1.91 sec

   (E) 4.83 sec

6. ***Multiple Choice*** The sales S (in dollars) of camping equipment at a small store can be modeled by $S = 52.6t^2 + 6500$, where t is the number of years since 1990. Estimate the year in which the store's sales of camping equipment will be \$12,800.

   (A) 2001 (B) 2005 (C) 1998

   (D) 1999 (E) 2003

Quantitative Comparison In Exercises 7–10, solve the quadratic equation. Then choose the statement that is true about the positive value of x in each solution.

(A) The positive value of x in column A is greater.

(B) The positive value of x in column B is greater.

(C) The positive values of x are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
7.	$5x^2 - 125 = 0$	$7x^2 = 175$
8.	$2x^2 + 72 = 0$	$2x^2 = 128$
9.	$3x^2 - 25 = 2$	$2x^2 - 7 = 91$
10.	$5x^2 - 18 = 0$	$3x^2 - 17 = 23$

LESSON 12.6

NAME _____ DATE _____

Standardized Test Practice

For use with pages 722–729

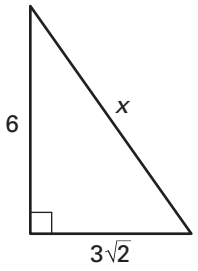
TEST TAKING STRATEGY **Be aware of how much time you have left, but keep focused on your work.**

1. ***Multiple Choice*** What is the length of the missing side of the triangle?

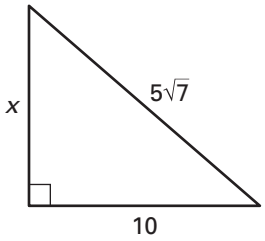
Ⓐ $6\sqrt{3}$ Ⓑ $18\sqrt{2}$

Ⓒ $3\sqrt{6}$ Ⓓ $4\sqrt{3}$

Ⓔ $3\sqrt{4}$



2. ***Multiple Choice*** What is the length of the missing side of the triangle?



Ⓐ $5\sqrt{3}$ Ⓑ $7\sqrt{2}$

Ⓒ $11\sqrt{5}$ Ⓓ $3\sqrt{5}$

Ⓔ $5\sqrt{11}$

3. ***Multiple Choice*** A right triangle has one leg that is 5 inches longer than the other leg. The hypotenuse is 25. Find the length of the shorter leg.

Ⓐ 10 Ⓑ 15 Ⓒ 17

Ⓓ 20 Ⓔ 13

4. ***Multiple Choice*** A right triangle has one leg that is twice the other leg. If the hypotenuse is $8\sqrt{5}$, find the length of the longer leg.

Ⓐ 8 Ⓑ 16 Ⓒ 4

Ⓓ 32 Ⓔ 12

5. ***Multiple Choice*** Which lengths below would form a right triangle?

Ⓐ 1, 3, 5 Ⓑ 1.2, 2.4, 6.1

Ⓒ 6, 9, 10 Ⓓ $2\sqrt{5}$, 4, 6

Ⓔ None of these

6. ***Multiple Choice*** A rectangular pool is 13 feet by 25 feet. What is the diagonal length from corner to corner?

Ⓐ about 29.5 Ⓑ about 27 ft

Ⓒ about 27.5 Ⓓ about 28.5

Ⓔ about 28 ft

7. ***Multiple Choice*** The area of a square is 64 square feet. What is the length of its diagonal?

Ⓐ 8 feet Ⓑ $8\sqrt{3}$ feet

Ⓒ $9\sqrt{2}$ feet Ⓓ $8\sqrt{2}$ feet

Ⓔ $5\sqrt{6}$ feet

8. ***Multiple Choice*** The diagonal of a square is $5\sqrt{2}$ feet. What is its area?

Ⓐ $5\ \text{ft}^2$ Ⓑ $10\ \text{ft}^2$

Ⓒ $15\ \text{ft}^2$ Ⓓ $25\ \text{ft}^2$

Ⓔ $50\ \text{ft}^2$

9. ***Mulit-Step Problem*** Two planes leave from the Philadelphia airport at the same time. One flies due south. The other flies southwest at a rate that is 30 miles per hour less than twice the rate of the plane headed south. After one hour, measuring east to west, the planes are 200 miles apart.

a. Let x represent the plane headed South. Write an expression for each plane's distance after one hour.

b. Draw a diagram of the situation.

c. Use the Pythagorean theorem to find the speed of each plane.

d. ***Writing*** Which method did you use to solve the quadratic equation? Why?

Chapter 12

LESSON 8.2

NAME _____ DATE _____

Standardized Test Practice

For use with pages 449–454

TEST TAKING STRATEGY **Learn as much as you can about the test ahead of time, such as types of questions and the topics the test will cover.**

1. ***Multiple Choice*** Evaluate $(5^{-3})\left(\frac{1}{5^{-5}}\right)(5^{-4})$.

(A) 10 (B) -25 (C) $\frac{1}{25}$
(D) $\frac{1}{10}$ (E) $-\frac{1}{25}$

2. ***Multiple Choice*** Evaluate $2^{-2} \cdot 2^4 \cdot 2^{-3}$.

(A) $\frac{1}{4}$ (B) $\frac{1}{2}$ (C) 2
(D) 4 (E) -2

3. ***Multiple Choice*** Evaluate $(3^3)^{-4}(3^7)$.

(A) 243 (B) $\frac{1}{243}$ (C) -243
(D) 6561 (E) $\frac{1}{6561}$

4. ***Multiple Choice*** Rewrite $(3x^{-2}y)(6xy^{-3})$ with positive exponents.

(A) $\frac{18}{xy^2}$ (B) $\frac{18x}{y^2}$ (C) $\frac{9}{xy^2}$
(D) $9xy^2$ (E) $\frac{18}{x^3y^4}$

5. ***Multiple Choice*** Rewrite $(2x^{-2}y)(3y^{-2})$ with positive exponents.

(A) $\frac{6y}{x^2}$ (B) $\frac{5y}{x^2}$ (C) $\frac{6y^{-3}}{x^2}$
(D) $\frac{6y^3}{x^2}$ (E) $\frac{6}{x^2y}$

6. ***Multiple Choice*** Evaluate $(-3)^2(-3)^{-2}$.

(A) 81 (B) 1 (C) -1
(D) 0 (E) -81

7. ***Multiple Choice*** Rewrite $(-3x^3y^{-6})(2x^{-3}y)$ with positive exponents.

(A) $\frac{-6x}{y^7}$ (B) $\frac{-6}{xy^5}$ (C) $\frac{-6x}{y^5}$
(D) $\frac{-6}{y^5}$ (E) $\frac{-5}{y^5}$

8. ***Multiple Choice*** Rewrite $-\frac{2x^{-1}}{x^2y^{-1}}$ with positive exponents.

(A) $-2x^3y$ (B) $\frac{2x^3}{y}$
(C) $-\frac{2y}{x^3}$ (D) $-\frac{2y}{x}$
(E) $\frac{2y}{x}$

9. ***Multiple Choice*** Evaluate $\frac{2}{2^{-2}}$.

(A) 8 (B) 4
(C) -4 (D) $\frac{1}{8}$
(E) -8

Quantitative Comparison In Exercises 10–12, choose the statement below that is true about the given value.

(A) The value in column A is greater.
(B) The value in column B is greater.
(C) The two values are equal.
(D) The relationship cannot be determined with the given information.

	Column A	*Column B*
10.	2^0	4^0
11.	4^{-2}	4^{-3}
12.	$\frac{1}{3^{-2}}$	$\frac{1}{4^{-2}}$

Chapter 8

LESSON 6.8

NAME _____ DATE _____

Standardized Test Practice

For use with pages 367–374

TEST TAKING STRATEGY **If you can, check your answer using a different method than you used originally to avoid making the same mistake twice**

1. ***Multiple Choice*** Which point is a solution of $3x - 5y \geq 8$?

Ⓐ $(1, 1)$ Ⓑ $(4, 1)$

Ⓒ $(-2, -2)$ Ⓓ $(2, -1)$

Ⓔ $(-1, 1)$

2. ***Multiple Choice*** Which point is a solution of $4x - 8y < 14$?

Ⓐ $(0, 2)$ Ⓑ $(3, -1)$

Ⓒ $(0, -2)$ Ⓓ $(5, -2)$

Ⓔ $(-3, -4)$

3. ***Multiple Choice*** Which point is not a solution of $11x - 6 < y$?

Ⓐ $(-1, 3)$ Ⓑ $(2, 10)$

Ⓒ $(0, 3)$ Ⓓ $(-4, -1)$

Ⓔ $(1, 7)$

4. ***Multiple Choice*** Choose the inequality whose solution is shown in the graph.

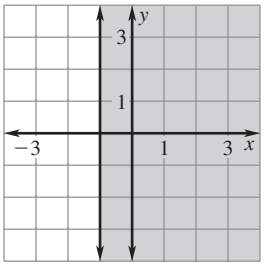
Ⓐ $x > -1$

Ⓑ $y > -1$

Ⓒ $x \geq -1$

Ⓓ $y \geq -1$

Ⓔ $x - 1 \geq -1$



5. ***Multiple Choice*** Choose the inequality whose solution is shown in the graph.

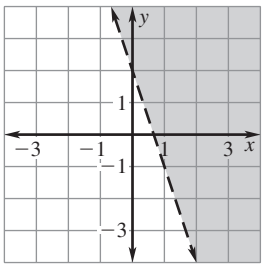
Ⓐ $y < -3x + 2$

Ⓑ $y > -3x + 2$

Ⓒ $y > 3x + 2$

Ⓓ $y \geq -3x + 2$

Ⓔ $y \leq -3x + 2$



6. ***Multiple Choice*** Choose the inequality that the graph represents.

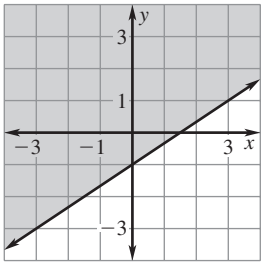
Ⓐ $y > \frac{2}{3}x - 1$

Ⓑ $y < \frac{2}{3}x - 1$

Ⓒ $y \leq -\frac{2}{3}x - 1$

Ⓓ $y \leq -\frac{2}{3}x + 1$

Ⓔ $y \geq \frac{2}{3}x - 1$



7. ***Multi-Step Problem*** You are in charge of a dinner-dance for school. You have a budget of $500 for dinners. There are 3 choices of meals: a fish dinner for $8.50, a steak dinner for $10.50, and a vegetarian dinner for $7.50. Two people order the vegetarian meal.

a. Write an inequality to model the different combinations of fish and steak dinners that might be purchased.

b. Graph the inequality.

c. If only 20 fish dinners are available, how many steak dinners can be purchased?

d. Does every point on the graph represent a reasonable real-life solution?

Chapter 6

LESSON 6.5

NAME _____ DATE _____

Standardized Test Practice

For use with pages 348–353

TEST TAKING STRATEGY **Some questions involve more than one step. Reading too quickly might lead to mistaking the answer to a preliminary step for your final answer.**

1. ***Multiple Choice*** Which inequality represents all real numbers greater than or equal to 5 or less than -2?

(A) $5 \leq x < -2$ (B) $x \geq 5$ or $x \leq -2$

(C) $5 \geq x > -2$ (D) $x \leq 5$ or $x < -2$

(E) $5 > x > -2$

2. ***Multiple Choice*** Describe the solution of the compound inequality $-2x + 5 < 9$ or $-5x + 2 > 17$.

(A) All real numbers less than -3 and greater than 2

(B) All real numbers less than 3 and greater than -2

(C) All real numbers less than 3 and greater than 2

(D) All real numbers less than -3 or greater than -2

(E) All real numbers less than $-\frac{19}{5}$ and greater than -7

3. ***Multiple Choice*** Choose the solution of the compound inequality $2x - 5 < 3$ or $2 - 3x < 5$.

(A) $x < -1$ and $x > 4$

(B) $x < 5$ or $x > 3$

(C) $x < 4$ and $x > -1$

(D) $x < 3$ or $x > 5$

(E) None of these

4. ***Multiple Choice*** Choose the solution of the compound inequality $5x \leq 20$ or $5 + 4x < -19$

(A) $x \geq -4$ or $x < -6$

(B) $x \geq -4$ or $x < 6$

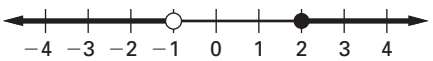
(C) $x \geq -4$ and $x < 6$

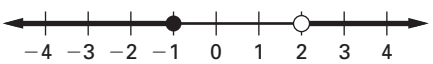
(D) $x \geq 4$ or $x < -6$

(E) None of these

5. ***Multiple Choice*** Which graph represents the solution of the compound inequality $3 - x < 1$ or $4x + 3 \leq -1$?

(A) 

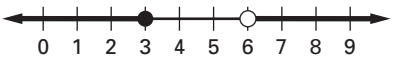
(B) 

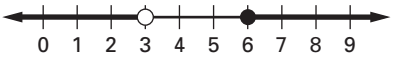
(C) 

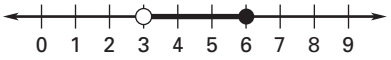
(D) 

(E) None of these

6. ***Multiple Choice*** Which graph represents the solution of the inequality $4x + 1 < 13$ or $3x - 8 \geq 10$.

(A) 

(B) 

(C) 

(D) 

(E) None of these

Quantitative Comparison In Exercises 7–9, choose the statement below that is true about the given number.

(A) The number in column A is greater.

(B) The number in column B is greater.

(C) The two numbers are equal.

(D) The relationship cannot be determined from the information given.

	Column A	*Column B*
7.	$3 \leq x < 8$	$x \geq -2$ and $x < 3$
8.	$2 \leq x + 3 \leq 18$	$x \leq 14$ or $x > 3$
9.	$8 < -2x + 4 \leq 12$	$3x < -6$ and $-\frac{x}{2} \leq 2$

LESSON 6.4

NAME _____ DATE _____

Standardized Test Practice

For use with pages 342–347

TEST TAKING STRATEGY **Some questions involve more than one step. Reading too quickly might lead to mistaking the answer to a preliminary step for your final answer.**

1. ***Multiple Choice*** Which inequality represents all real numbers greater than 4 and less than or equal to 7?

(A) $4 < x \leq 7$ (B) $4 \leq x \leq 7$

(C) $4 < x < 7$ (D) $4 > x$ or $x \leq 7$

(E) $4 < x$ or $x \geq 7$

2. ***Multiple Choice*** Describe the solution of the inequality $-2 < 3x + 1 < 10$.

(A) All real numbers less than 3 and greater than -2

(B) All real numbers less than 10 or greater than -1

(C) All real numbers less than 3 and greater than -1

(D) All real numbers less than 9 or greater than -1

(E) None of these

3. ***Multiple Choice*** Describe the solution of the inequality $8 \leq x - 3 < 12$.

(A) All real numbers less than 9 and greater than or equal to 5

(B) All real numbers less than 15 or greater than or equal to 11

(C) All real numbers less than 15 and greater than or equal to 11

(D) All real numbers less than 9 or greater than or equal to 5

(E) None of these

4. ***Multiple Choice*** Choose the solution of the inequality $6 \leq -2x < 14$.

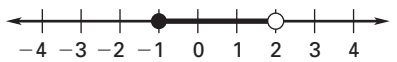
(A) $-7 < x \leq -3$ (B) $-3 \leq x < -7$

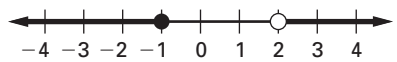
(C) $-3 \geq x > -7$ (D) A and C

(E) A and B

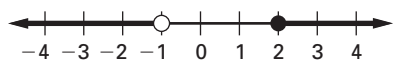
5. ***Multiple Choice*** Which graph represents the solution of $-3 \leq 4x + 1 < 9$?

(A) 

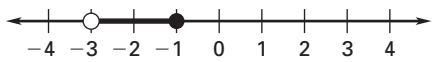
(B) 

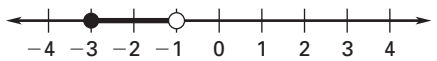
(C) 

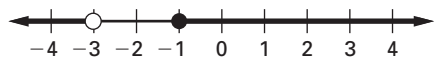
(D) 

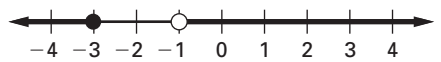
(E) 

6. ***Multiple Choice*** Which graph represents the solution of $3 < -2x + 1 < 7$?

(A) 

(B) 

(C) 

(D) 

(E) None of these

Quantitative Comparison In Exercises 7–9, choose the statement below that is true about the given number.

(A) The number in column A is greater.

(B) The number in column B is greater.

(C) The two numbers are equal.

(D) The relationship cannot be determined from the information given.

	Column A	*Column B*
7.	$-2 < 2x < 0$	$x > -1$ and $x < 0$
8.	$6 < 2x + 10 < 14$	$x > 2$ and $x \leq 6$
9.	$-13 \leq 3x + 5 < -1$	$x < 0$ and $x > -10$

Chapter 6

NAME _____ DATE _____

Standardized Test Practice

For use with pages 279–284

TEST TAKING STRATEGY **Some questions involve more than one step. Reading too quickly might lead to mistaking the answer to a preliminary step for your final answer.**

1. ***Multiple Choice*** What is an equation of the line that passes through the point $(3, 2)$ and has a slope of 3?

Ⓐ $y = 3x - 3$ Ⓑ $y = 3x + 3$

Ⓒ $y = 3x - 7$ Ⓓ $y = 3x + 7$

Ⓔ $y = 3x + 2$

2. ***Multiple Choice*** What is an equation of the line that passes through the point $(-2, 4)$ and has a slope of -5?

Ⓐ $y = -5x - 14$ Ⓑ $y = -5x - 6$

Ⓒ $y = -5x + 18$ Ⓓ $y = -5x - 18$

Ⓔ $y = 5x + 18$

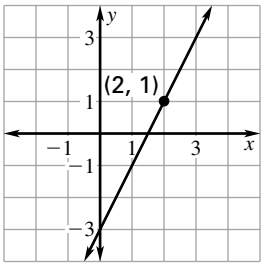
3. ***Multiple Choice*** What is an equation of the line that passes through the point $(1, -3)$ and has slope of $-\frac{1}{2}$?

Ⓐ $y = \frac{1}{2}x - \frac{2}{5}$ Ⓑ $y = \frac{1}{2}x + \frac{2}{5}$

Ⓒ $y = -\frac{1}{2}x + \frac{5}{2}$ Ⓓ $y = -\frac{1}{2}x - \frac{5}{2}$

Ⓔ $y = -\frac{1}{2}x - 3$

4. ***Multiple Choice*** Write an equation of the line shown in the graph.



Ⓐ $y = 2x + 3$ Ⓑ $y = \frac{1}{2}x + 3$

Ⓒ $y = 2x - 3$ Ⓓ $y = \frac{1}{2}x - 3$

Ⓔ $y = -2x - 3$

5. ***Multiple Choice*** What is an equation of the line that is parallel to $y = 3x + 1$ and passes through the point $(2, 6)$?

Ⓐ $y = 3x + 2$ Ⓑ $y = 3x$

Ⓒ $y = 3x + 6$ Ⓓ $y = 3x + 2$

Ⓔ $y = -3x$

6. ***Multiple Choice*** What is an equation of the line that is parallel to $y = \frac{1}{2}x - 3$ and has an x-intercept of -4?

Ⓐ $y = \frac{1}{2}x - 4$ Ⓑ $y = \frac{1}{2}x - 2$

Ⓒ $y = -\frac{1}{2}x - 2$ Ⓓ $y = -\frac{1}{2}x + 2$

Ⓔ $y = \frac{1}{2}x + 2$

Quantitative Comparison In Exercises 7–9, choose the statement below that is true about the given number.

Ⓐ The number is column A is greater.

Ⓑ The number in column B is greater.

Ⓒ The two numbers are equal.

Ⓓ The relationship cannot be determined from the given information.

	Column A	*Column B*
7.	The y-intercept of the line with $m = 2$ and passing through $(1, 3)$	The y-intercept of the line with $m = -1$ and passing through $(3, -5)$
8.	The y-intercept of the line with $m = \frac{1}{2}$ and passing through $(6, -3)$	The y-intercept of the line with $y = 4x + 2$ and passing through $(1, 2)$.
9.	The slope of the line parallel to $y = \frac{1}{5}x$	The y-intercept of the line with $m = \frac{3}{2}$ and passing through $(4, -3)$

LESSON 5.1

NAME _____ DATE _____

Standardized Test Practice

For use with pages 261–267

TEST TAKING STRATEGY **Be aware of how much time you have left, but keep focused on your work.**

1. ***Multiple Choice*** An equation of the line whose slope is 3 and whose y-intercept is 8 is ___?___?

(A) $y = 8x + 3$ (B) $y = 3x + 8$

(C) $y = -3x + 8$ (D) $y = -3x - 8$

(E) $y = 3x - 8$

2. ***Multiple Choice*** An equation of the line whose slope is -6 and whose y-intercept is 9 is ___?___?

(A) $y = -9x - 6$ (B) $y = 9x - 6$

(C) $y = -6x - 9$ (D) $y = 6x - 9$

(E) $y = -6x + 9$

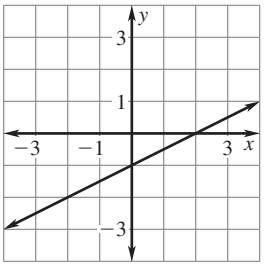
3. ***Multiple Choice*** An equation of the line whose slope is $\frac{1}{2}$ and whose y-intercept is -2 is ___?___?

(A) $y = \frac{1}{2}x - 2$ (B) $y = -\frac{1}{2}x - 2$

(C) $y = -2x - \frac{1}{2}$ (D) $y = -2x + \frac{1}{2}$

(E) $y = \frac{1}{2}x + 2$

4. ***Multiple Choice*** What is an equation of the line shown in the graph?

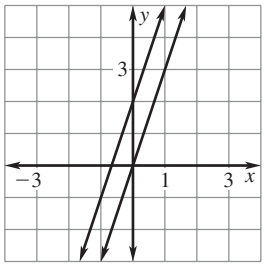


(A) $y = 2x - 1$ (B) $y = \frac{1}{2}x + 1$

(C) $y = \frac{1}{2}x - 1$ (D) $y = -\frac{1}{2}x + 1$

(E) $y = -x + \frac{1}{2}$

5. ***Multiple Choice*** Write a set of equations for parallel lines shown in the graph.



(A) $y = 3x$; $y = 3x - 2$

(B) $y = 3x$; $y = 3x + 2$

(C) $y = \frac{1}{3}x$; $y = \frac{1}{3}x + 2$

(D) $y = \frac{1}{3}x$; $y = \frac{1}{3}x - 1$

(E) $y = 3x$; $y = 3x - 1$

Quantitative Comparison In Exercises 6–9, choose the statement below that is true about the given number.

(A) The number is column A is greater.

(B) The number in column B is greater.

(C) The two numbers are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
6.	The y-intercept of $y = 3x - 5$	The slope of $y = 3x - 5$
7.	The slope of $y = -\frac{1}{2}x - \frac{1}{5}$	The y-intercept of $y = -\frac{1}{2}x - \frac{1}{5}$
8.	The x-intercept of $y = 5x + 6$	The y-intercept of $y = \frac{2}{5}x - \frac{6}{5}$
9.	The y-intercept of $y = 3x$	The x-intercept of $y = 2x + 1$

LESSON 4.7

NAME _____ DATE _____

Standardized Test Practice

For use with pages 241–247

TEST TAKING STRATEGY **Think positively during a test. This will help keep up your confidence and enable you to focus on each question.**

1. ***Multiple Choice*** What is the slope of a linear equation written in slope-intercept form, $y = mx + b$?

Ⓐ y Ⓑ x Ⓒ m

Ⓓ b Ⓔ mx

2. ***Multiple Choice*** What is the slope of the graph of $y = -3x + 2$?

Ⓐ 1 Ⓑ -3 Ⓒ 2

Ⓓ 3 Ⓔ -2

3. ***Multiple Choice*** What is the slope of the graph of $4x + 3y = 15$?

Ⓐ 4 Ⓑ -4 Ⓒ $-\frac{4}{3}$

Ⓓ $\frac{4}{3}$ Ⓔ 5

4. ***Multiple Choice*** What is the y-intercept of the graph of $y = 5x - 2$?

Ⓐ 1 Ⓑ 5 Ⓒ 2

Ⓓ -2 Ⓔ -5

5. ***Multiple Choice*** What is the y-intercept of the graph of $3y - 2x = 18$?

Ⓐ 18 Ⓑ $\frac{2}{3}$ Ⓒ 6

Ⓓ -6 Ⓔ $-\frac{2}{3}$

6. ***Multiple Choice*** Choose the set of equations which are parallel lines.

Ⓐ $x = 2, y = 6$

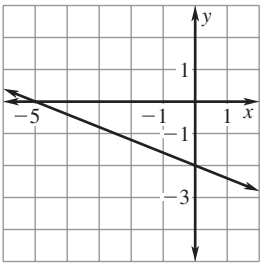
Ⓑ $y = 3x + 6, y = 2x + 6$

Ⓒ $y = -5x + 1, y = 5x + 3$

Ⓓ $y = -\frac{1}{2}x + 2, y = -\frac{1}{2}x$

Ⓔ $y = 6x + 3, y = \frac{1}{6}x + 3$

7. ***Multiple Choice*** What is the equation, in slope-intercept form, of the line shown.



Ⓐ $-2x - 5y = 10$ Ⓑ $y = -\frac{2}{5}x + 2$

Ⓒ $y = -\frac{2}{5}x - 2$ Ⓓ $-5x - 2y = 10$

Ⓔ $y = \frac{2}{5}x - 2$

8. ***Multiple Choice*** You are filling a pot with water. The water level in the pot is rising at a rate of 2 inches per minute. The pot is already 3 inches full. The equation $y = 2x + 3$ models the depth of the water after x minutes. What is the depth of the water after 3 minutes?

Ⓐ 3 Ⓑ 7 Ⓒ 6

Ⓓ 8 Ⓔ 9

Quantitative Comparison In Exercises 9–11, choose the statement that is true about the given number.

Ⓐ The number in column A is greater.

Ⓑ The number in column B is greater.

Ⓒ The two numbers are equal.

Ⓓ The relationship cannot be determined from the information given.

	Column A	*Column B*
9.	The slope of $y = -3x + 6$	The slope of $y = -2x + 2$
10.	The slope of $y = -5x$	The slope of $2y = -10x + 15$
11.	The y-intercept of $y = \frac{1}{2}x + 3$	The y-intercept of $y = 13x$

Chapter 4

LESSON 4.4

NAME _____ DATE _____

Standardized Test Practice

For use with pages 220–225

TEST TAKING STRATEGY **Some questions involve more than one step. Reading too quickly might lead to mistaking the answer to a preliminary step for your final answer.**

1. ***Multiple Choice*** What is the x-intercept of the line $5x - 2y = 10$?

(A) 0 (B) 2 (C) 5

(D) -2 (E) -5

2. ***Multiple Choice*** What is the y-intercept of the line $5x - 2y = 10$?

(A) 0 (B) 2 (C) 5

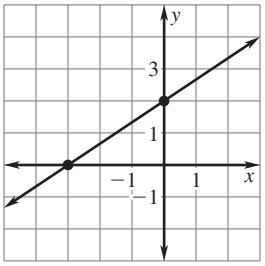
(D) -2 (E) -5

3. ***Multiple Choice*** What is the x-intercept of the line $\frac{1}{2}x + \frac{3}{5}y = 20$?

(A) 0 (B) 12 (C) $\frac{100}{3}$

(D) 10 (E) 40

4. ***Multiple Choice*** What is the y-intercept of the line shown?



(A) 3 (B) -3 (C) 2

(D) -2 (E) 0

5. ***Multiple Choice*** What is the x-intercept of the line shown in exercise 4?

(A) 3 (B) -3 (C) 2

(D) -2 (E) 0

6. ***Multiple Choice*** A hotdog stand sells foot-long hotdogs for \$2.50 and 6 inch hotdogs for \$1.50. If the stand makes \$54 one day, choose the equation which models the situation.

(A) $2.50x - 1.50y = 54$

(B) $2.50x + 1.50y = 54$

(C) $y = -1.67x - 36$

(D) $y = -1.67x + 36$

(E) B and D

Quantitative Comparison In Exercises 7–10, choose the statement that is true about the given number.

(A) The number in column A is greater.

(B) The number in column B is greater.

(C) The two numbers are equal.

(D) The relationship cannot be determined from the information given.

	Column A	*Column B*
7.	The x-intercept of $3y + 6x = 12$	The y-intercept of $2y + 7x = 14$
8.	The x-intercept of $y = 6$	The y-intercept of $x = 3$.
9.	0	The y-intercept of $x + \frac{1}{2}y = 4$
10.	The x-intercept of $\frac{1}{2}x - 2y = 8$	The y-intercept of $\frac{1}{2}x - 2y = 8$

Chapter 4

LESSON 4.2

NAME _____ DATE _____

Standardized Test Practice

For use with pages 208–213

TEST TAKING STRATEGY **Learn as much as you can about a test ahead of time, such as the types of questions and the topics that the test will cover.**

1. ***Multiple Choice*** Choose the ordered pair that is a solution of $2x - 3y = 6$.

Ⓐ $(5, 1)$ Ⓑ $(0, 6)$ Ⓒ $(4, 3)$

Ⓓ $(6, 2)$ Ⓔ $(3, 2)$

2. ***Multiple Choice*** Choose the ordered pair that is a solution of $y = -3$.

Ⓐ $(1, 3)$ Ⓑ $(-1, -3)$

Ⓒ $(-3, 0)$ Ⓓ $(3, -1)$

Ⓔ $(-3, -1)$

3. ***Multiple Choice*** Choose the group of ordered pairs that are solutions of the equation $y = -3x + 4$.

Ⓐ $(1, 0), (2, -2)$ Ⓑ $(1, 2), (3, 4)$

Ⓒ $(1, 1), (3, -5)$ Ⓓ $(0, 4), (2, 2)$

Ⓔ $(2, -3), (4, 5)$

4. ***Multiple Choice*** Choose the group of ordered pairs that are solutions of the equation $y = 8\left(\frac{1}{4}x - 2\right)$.

Ⓐ $(0, -16), (2, -12)$

Ⓑ $(0, -14), (1, -12)$

Ⓒ $(1, -16), (4, -8)$

Ⓓ $(4, -8), (8, 8)$

Ⓔ $(8, 8), (2, -12)$

5. ***Multiple Choice*** Which ordered pair is not a solution of $x = -2$?

Ⓐ $(-2, 0)$ Ⓑ $(-2, -2)$

Ⓒ $(2, -2)$ Ⓓ $(-2, 4)$

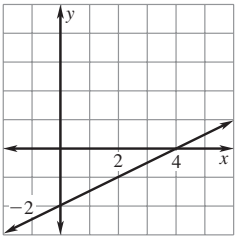
Ⓔ $(-2, 1)$

6. ***Multiple Choice*** Which point does *not* lie on the graph of $3y + \frac{1}{2}x = 8$?

Ⓐ $\left(2, \frac{7}{3}\right)$ Ⓑ $\left(0, \frac{8}{3}\right)$ Ⓒ $\left(1, \frac{6}{3}\right)$

Ⓓ $(4, 2)$ Ⓔ $(10, 1)$

7. ***Multiple Choice*** What is the equation of the line shown?

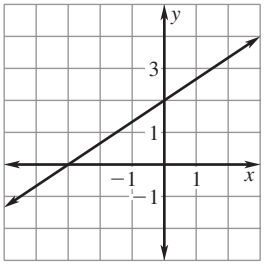


Ⓐ $x - 2y = 4$ Ⓑ $x + 2y = 4$

Ⓒ $-x + 2y = 4$ Ⓓ $-x - 2y = 4$

Ⓔ $-x - 2y = -4$

8. ***Multiple Choice*** What is the equation of the line shown?



Ⓐ $2x + 3y = 6$ Ⓑ $2x + 3y = -6$

Ⓒ $-2x + 3y = 6$ Ⓓ $-2x - 3y = 6$

Ⓔ $2x - 3y = 6$

9. ***Multi-Step Problem*** Your parents limit your phone use to 18 hours every week. You need to split that between hours spent on the phone with your friends and hours spent using the internet. Your parents count one hour on line as $\frac{1}{2}$ hour of phone time since some of your time is spent doing homework. An algebraic model is $x + \frac{1}{2}y = 18$, where x is hours spent on the phone and y is the hours spent on line.

a. Solve the equation for y.

b. Use the equation from part (a) to make a table of values for $x = 5$, $x = 10$, and $x = 15$.

c. Plot the points and draw the line.

Chapter 4

LESSON 6.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 336–341

TEST TAKING STRATEGY **Be aware of how much time you have left, but keep focused on your work.**

1. ***Multiple Choice*** Which inequality is equivalent to $3x - 2 \leq 7$?

   (A) $x \geq 3$ (B) $x \leq 3$

   (C) $x \leq \frac{5}{3}$ (D) $x \geq \frac{5}{3}$

   (E) $x \leq 6$

2. ***Multiple Choice*** Which inequality is equivalent to $5 - 8x \geq -11$?

   (A) $x \leq 2$ (B) $x \geq 2$

   (C) $x \leq -2$ (D) $x \leq \frac{3}{4}$

   (E) $x \geq \frac{3}{4}$

3. ***Multiple Choice*** Describe the solution of the inequality $-\frac{1}{2}x - 4 \leq 6$.

   (A) All real numbers greater than or equal to -20

   (B) All real numbers greater than or equal to 20

   (C) All real numbers less than or equal to -20

   (D) All real numbers less than or equal to -5

   (E) All real numbers greater than or equal to -5

4. ***Multiple Choice*** Which inequality is equivalent to $x - 5 \leq 3x + 7$?

   (A) $x \geq 6$ (B) $x \geq -1$

   (C) $x \leq -6$ (D) $x \geq -6$

   (E) $x \leq -1$

5. ***Multiple Choice*** Which inequality is equivalent to $6 - x > 4x + 9$?

   (A) $x < 3$ (B) $x > 3$

   (C) $x < -\frac{3}{5}$ (D) $x > -\frac{3}{5}$

   (E) $x < -3$

6. ***Multiple Choice*** It costs \$20 to golf at a local course. A season pass costs \$250. Which inequality represents the number of games you need to play to justify buying a season pass?

   (A) $x \geq 12$ (B) $x > 12$

   (C) $x \geq 13$ (D) $x \leq 12$

   (E) None of these

7. ***Multi-Step Problem*** You are working on your school's yearbook. It takes at least 3 hours to design and layout a page.

   a. Write an inequality that describes the number of hours it would take to layout a 220 page yearbook.

   b. You work 4 hours per week. Write an inequality describing the number of weeks it would take you to complete the yearbook if you were working alone.

   c. Write an inequality to describe the number of people that would be necessary to complete the yearbook in 20 weeks or less if each person averages 5 hours of work per week.

LESSON 11.7

NAME _____ DATE _____

Standardized Test Practice

For use with pages 671–677

TEST TAKING STRATEGY **As soon as the testing begins, start working. Keep moving and stay focused on the test.**

1. ***Multiple Choice*** What is the solution of $\frac{x+1}{5} = \frac{2x}{15}$?

   (A) $-\frac{3}{5}$ (B) -3 (C) 3

   (D) $-\frac{1}{5}$ (E) $\frac{3}{5}$

2. ***Multiple Choice*** What is a solution of $\frac{12}{x+2} + 2 = \frac{3x}{x^2 - 3x - 10}$?

   (A) about 7.1 (B) about 5.6

   (C) about -5.6 (D) about -4.4

   (E) about 2.9

3. ***Multiple Choice*** You have a batting average of 0.200 after 90 times at bat. You would like to raise your average to 0.250. Which equation would you use to calculate the number of consecutive hits you need to achieve your goal?

   (A) $0.25 = \frac{18+x}{90+x}$ (B) $0.25 = \frac{18+x}{90}$

   (C) $0.20 = \frac{18+x}{90+x}$ (D) $0.20 = \frac{x-18}{90}$

   (E) $0.05 = \frac{x}{18}$

4. ***Multiple Choice*** Two hoses are filling a swimming pool. The first hose can fill the pool in 30 minutes, the second in 45 minutes. If both hoses are used, how long will it take to fill the pool?

   (A) 15 minutes (B) 16 minutes

   (C) 18 minutes (D) 20 minutes

   (E) 22 minutes

5. ***Multiple Choice*** Which value is not in the domain of $y = \frac{1}{x-5} + 6$?

   (A) -5 (B) -6 (C) 0

   (D) 6 (E) 5

6. ***Multiple Choice*** What is the solution of $\frac{x}{x+1} = 2 + \frac{5}{x+1}$?

   (A) -1 (B) 7 (C) 5

   (D) -5 (E) -7

Quantitative Comparison In Exercises 7-9, solve the equation. Then choose the statement below that is true about the solution.

(A) The value in column A is greater.

(B) The value in column B is greater.

(C) The two values are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
7.	$\frac{5}{2x-1} = \frac{1}{x}$	$\frac{x}{x+1} = \frac{1}{2}$
8.	$\frac{1}{x} + \frac{1}{2} = \frac{5}{x}$	$\frac{1}{x+2} - \frac{1}{2} = 2$
9.	$\frac{1}{y-5} - \frac{3}{y+5} = 0$	$\frac{2}{3-y} = \frac{5}{2y+1}$

Chapter 11

LESSON 9.7

NAME _____ DATE _____

Standardized Test Practice

For use with pages 540–545

TEST TAKING STRATEGY **Spend no more than a few minutes on each question.**

1. ***Multiple Choice*** What is the discriminant of the equation $7x^2 - 3x + 10 = 0$?

   (A) 271 (B) -271 (C) 289

   (D) -289 (E) -277

2. ***Multiple Choice*** What is the discriminant of the equation $-3x^2 - 12x + 17 = 8$?

   (A) 36 (B) 348 (C) -348

   (D) -252 (E) 252

3. ***Multiple Choice*** Use the discriminant to determine the number of solutions for the equation $3x^2 - 7x - 1 = 0$?

   (A) 3 (B) 1 (C) 2

   (D) Infinitely many (E) None

4. ***Multiple Choice*** Use the discriminant to determine the number of solutions for the equation $\frac{1}{2}x^2 = 8$.

   (A) 3 (B) 1 (C) 2

   (D) Infinitely many (E) None

5. ***Multiple Choice*** What effect does increasing the value of C by 2 have on the number of solutions for the graph of $5x^2 - 2x - 1 = 0$?

   (A) Increases the number of solutions by 2.

   (B) Decreases the number of solutions by 2.

   (C) Increases the number of solutions by 1.

   (D) Has no effect on the number of solutions.

6. ***Multiple Choice*** What effect does decreasing the value of C by 3 have on the number of solutions to the graph of $3x^2 + 6x + 3 = 0$?

   (A) Increases the number of solutions by 2

   (B) Decreases the number of solutions by 2

   (C) Increases the number of solutions by 1

   (D) Decreases the number of solutions by 1

   (E) Has no effect on the number of solutions

7. ***Multiple Choice*** For the equation $2x^2 - 5x + 6 = 0$, the graph of the equation would __?__ .

   (A) Have one x-intercept

   (B) Have two x-intercepts

   (C) Have no x-intercepts

   (D) Have no y-intercepts

   (E) None of these

Quantitative Comparison In Exercise 8–10, determine the number of solutions for each equation. Then choose the statement below that is true about the number of solutions.

(A) The number of solutions in column A is greater.

(B) The number of solutions in column B is greater.

(C) The number of solutions is equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
8.	$y = 3x^2 - 2x - 6$	$y = -3x^2 + 2x - 6$
9.	$y = \frac{1}{2}x^2 - 18$	$y = -5x^2 + 10$
10.	$y = x^2 - 2x + 1$	$y = 5x^2 - 8x + 3$

LESSON 12.5

NAME _____ DATE _____

Standardized Test Practice

For use with pages 716–721

TEST TAKING STRATEGY **Avoid spending too much time on one question. Skip questions that are too difficult for you, and spend no more than a few minutes on each question.**

1. ***Multiple Choice*** What term should be added to $x^2 + 18x$ so that the result is a perfect square trinomial?

(A) 9 (B) 162 (C) 42
(D) 81 (E) 36

2. ***Multiple Choice*** What term should be added to $x^2 - \frac{6}{5}x$ so that the result is a perfect square trinomial?

(A) $\frac{3}{5}$ (B) $\frac{144}{25}$ (C) $\frac{9}{25}$
(D) $\frac{12}{5}$ (E) $-\frac{3}{5}$

3. ***Multiple Choice*** Solve $4x^2 - x - 8 = 0$ by completing the square, then choose the solution.

(A) $\frac{1}{8} \pm \frac{\sqrt{130}}{8}$ (B) $\frac{1}{8} \pm \frac{\sqrt{129}}{8}$
(C) $\frac{1}{4} \pm \frac{\sqrt{129}}{8}$ (D) $-\frac{1}{8} \pm \frac{\sqrt{129}}{8}$
(E) None of these

4. ***Multiple Choice*** Solve $x^2 - 12x - 7 = 0$ by completing the square.

(A) $7 \pm \sqrt{43}$ (B) $6 \pm \sqrt{43}$
(C) $6 \pm \sqrt{42}$ (D) $7 \pm \sqrt{42}$
(E) $12 \pm \sqrt{43}$

5. ***Multiple Choice*** Solve $15x - 45x^2 = 0$ using the most appropriate method.

(A) $0, -\frac{1}{3}$ (B) 0, 3 (C) $0, \frac{1}{3}$
(D) $1, \frac{1}{3}$ (E) $0, -3$

6. ***Multiple Choice*** Solve the equation $3x^2 + 13x - 10 = 0$ using the most appropriate method.

(A) $-\frac{2}{3}, 5$ (B) $-5, \frac{2}{3}$ (C) $-5, \frac{3}{2}$
(D) $10, \frac{5}{3}$ (E) $-10, \frac{5}{3}$

7. ***Multiple Choice*** The area of a triangle is 90 square inches. The base is 8 inches less than 3 times the height. What is the measurement of the height?

(A) 6.5 inches (B) 7.0 inches
(C) 8.2 inches (D) 9.2 inches
(E) 4.3 inches

8. ***Multiple Choice*** Solve $x^2 - 14x - 11 = 0$ using the most appropriate method.

(A) $7 \pm 6\sqrt{10}$ (B) $-7 \pm 3\sqrt{10}$
(C) $-7 \pm 2\sqrt{5}$ (D) $-7 \pm 3\sqrt{5}$
(E) $7 \pm 2\sqrt{15}$

Quantitative Comparison In Exercises 9–11, find the term that should be added to the expression to create a perfect square trinomial. Then choose the statement below that is true about the added term.

(A) The added term in column A is greater.
(B) The added term in column B is greater.
(C) The two added terms are equal.
(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
9.	$x^2 + 13x$	$x^2 - 13x$
10.	$x^2 + \frac{3}{5}x$	$x^2 - \frac{4}{7}x$
11.	$x^2 + 3.2x$	$x^2 + \frac{17}{5}x$

Chapter 12

LESSON 6.6

NAME _____ DATE _____

Standardized Test Practice

For use with pages 355–360

TEST TAKING STRATEGY **Work as fast as you can through the easier problems, but not so fast that you are careless.**

1. ***Multiple Choice*** Which numbers are solutions to the absolute-value equation $|x + 2| - 3 = 8$?

(A) 6 and -10 (B) 9 and -13

(C) 9 and -9 (D) -9 and -13

(E) 3 and -7

2. ***Multiple Choice*** Which numbers are solutions to the absolute-value equation $12 + |3x - 1| = 19$?

(A) 2 and -2 (B) $\frac{8}{3}$ and $-\frac{8}{3}$

(C) $\frac{32}{3}$ and -10 (D) $\frac{8}{3}$ and -2

(E) 10 and -10

3. ***Multiple Choice*** Which numbers are solutions to the absolute-value equation $|1 - x| = 2$?

(A) -1 and 2 (B) -2 and 2

(C) -1 and -2 (D) -1 and 3

(E) None of these

4. ***Multiple Choice*** Which numbers are solutions to the absolute-value equation $7 + |x - 6| = 3$?

(A) -2 and -10 (B) -2 and 10

(C) 2 and 10 (D) 2 and -10

(E) None of these

5. ***Multiple Choice*** Which numbers are solutions to the absolute-value equation $\left|\frac{x}{4}\right| = 0$?

(A) 0 (B) 4

(C) 0 and 4 (D) 4 and -4

(E) None of these

6. ***Multiple Choice*** Which graph represents the solution of $|2x - 5| = 3$?

(A)

(B)

(C)

(D)

(E) None of these

Quantitative Comparison In Exercises 7–9, choose the statement below that it true about the given number.

(A) The number in column A is greater.

(B) The number in column B is greater.

(C) The two numbers are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
7.	$\|x\| = 6$	$\|x\| = 0$
8.	$\|x - 1\| = 1$	$\|x - 4\| = 1$
9.	$\|2x - 3\| = 1$	$\|2x + 3\| = 1$

Chapter 6

LESSON 6.7

NAME _____ DATE _____

Standardized Test Practice

For use with pages 361–366

TEST TAKING STRATEGY **Work as fast as you can through the easier problems, but not so fast that you are careless.**

1. ***Multiple Choice*** Which number is a solution to the absolute-value inequality $|6x - 7| < 2$?

(A) $\frac{2}{3}$ (B) 0.5

(C) -1 (D) 1.23

(E) None of these

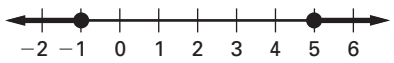
2. ***Multiple Choice*** Which number is a solution to the absolute-value inequality $|x + 1| \leq 1$?

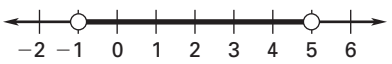
(A) -1 (B) -3

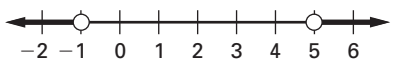
(C) 0 (D) 1

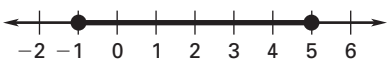
(E) None of these

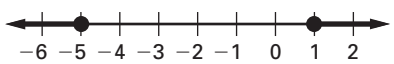
3. ***Multiple Choice*** Which graph represents the solution of $|3x - 6| \geq 9$?

(A) 

(B) 

(C) 

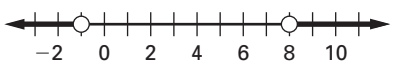
(D) 

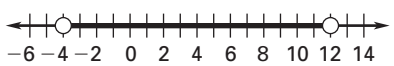
(E) 

4. ***Multiple Choice*** Which graph represents the solution of $|2x - 7| + 3 < 12$?

(A) 

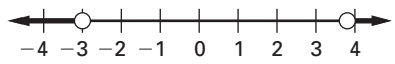
(B) 

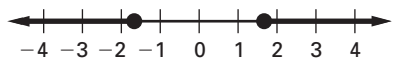
(C) 

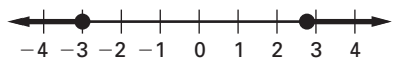
(D) 

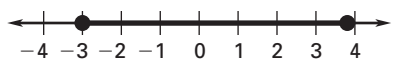
(E) 

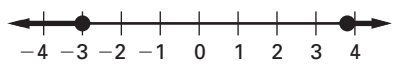
5. ***Multiple Choice*** Which graph represents the solution of $|5x - 2| - 8 \geq 9$?

(A) 

(B) 

(C) 

(D) 

(E) 

6. ***Multiple Choice*** Your soccer team averages between 3 and 9 goals per game. Choose the absolute-value inequality describing the average number of goals per game.

(A) $|x - 3| \leq 9$ (B) $|x - 6| \leq 9$

(C) $|x - 6| \leq 3$ (D) $|x - 3| \leq 3$

(E) $|x + 3| \leq 6$

Quantitative Comparison In Exercises 7–9, choose the statement below that is true about the given number.

(A) The number in column A is greater.

(B) The number in column B is greater.

(C) The two numbers are equal.

(D) The relationship cannot be determined from the given information.

	Column A	*Column B*
7.	$\|x + 2\| < 1$	$\|x\| < 1$
8.	$\|x - 7\| < 2$	$\|2x + 3\| < 7$
9.	$\|4x - 2\| < 6$	$\|2x - 1\| - 1 < 2$

LESSON 5.3

NAME _____ DATE _____

Standardized Test Practice

For use with pages 285–291

TEST TAKING STRATEGY **Go back and check as much of your work as you can.**

1. ***Multiple Choice*** What is an equation of the line that passes through points $(2, 3)$ and $(-1, 4)$?

   (A) $y = 3x - \frac{11}{3}$ (B) $y = -\frac{1}{3}x - \frac{11}{3}$

   (C) $y = -3x + \frac{11}{3}$ (D) $y = -\frac{1}{3}x + \frac{11}{3}$

   (E) $y = -\frac{1}{3}x + 3$

2. ***Multiple Choice*** What is an equation of the line that passes through the points $(-3, 5)$ and $(2, 15)$?

   (A) $y = 2x + 11$ (B) $y = 2x - 11$

   (C) $y = -2x + 11$ (D) $y = \frac{1}{2}x + 11$

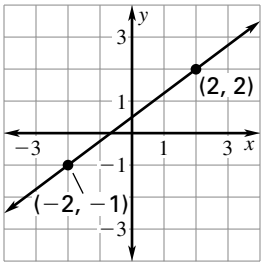
   (E) $y = -\frac{1}{2}x - 11$

3. ***Multiple Choice*** What is the slope of the line perpendicular to the line $y = \frac{1}{2}x - 6$?

   (A) 2 (B) $-\frac{1}{2}$ (C) -2

   (D) $\frac{1}{2}$ (E) $\frac{1}{6}$

4. ***Multiple Choice*** Write an equation of the line shown in the graph.



   (A) $y = -\frac{3}{4}x + \frac{1}{2}$ (B) $y = \frac{4}{3}x + \frac{1}{2}$

   (C) $y = \frac{3}{4}x - \frac{1}{2}$ (D) $y = \frac{4}{3}x - \frac{1}{2}$

   (E) $y = \frac{3}{4}x + \frac{1}{2}$

5. ***Multiple Choice*** Which set of lines are perpendicular?

   (A) $y = 2x + 3$; $y = -2x + 6$

   (B) $y = \frac{1}{3}x$; $y = -3x + 2$

   (C) $y = \frac{2}{3}x + \frac{1}{2}$; $y = \frac{2}{3}x - 2$

   (D) $y = -6x + 1$; $y = -\frac{1}{6}x - 1$

   (E) $y = 3$; $y = x + 1$

6. ***Multiple Choice*** Which lines are perpendicular?

   Line d passes through $(2, 4)$ and $(-1, 6)$.

   Line e passes through $(-3, -2)$ and $(5, 8)$.

   Line f passes through $(2, 10)$ and $(7, 6)$.

   (A) Lines d and e

   (B) Lines d and f

   (C) Lines e and f

   (D) All three are perpendicular

   (E) None of these

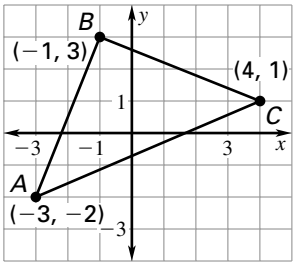
7. ***Multiple Choice*** Which is an equation of a line perpendicular to the line $y = -\frac{3}{2}x + \frac{1}{2}$?

   (A) $y = -\frac{2}{3}x + 6$ (B) $y = \frac{2}{3}x + 3$

   (C) $y = \frac{3}{2}x - \frac{1}{2}$ (D) $y = -\frac{2}{3}x - \frac{1}{2}$

   (E) $y = -\frac{3}{2}x - 2$

8. ***Multi-Step Problem*** The triangle shown is a right triangle.



   a. Find the equations of the lines that form side $\overline{AB}$, side $\overline{BC}$, and side $\overline{AC}$.

   b. Which two sides of the triangle form the right angle? How can you prove it?