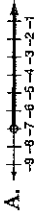
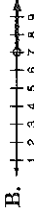
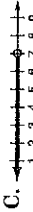



Chapter 1 Test, Form 1A

Write the letter for the correct answer in the blank at the right of each problem.

1. Find the value of $4 + 5[14 - (8 + 3)]$.
 A. 27 B. 19 C. 49 D. -46
2. Evaluate $2b(4a - c^2)$ if $a = 5$, $b = \frac{2}{3}$, and $c = 11$.
 A. $-134\frac{2}{3}$ B. $-2\frac{2}{3}$ C. $-67\frac{1}{3}$ D. 108
3. The formula for the surface area of a sphere is $A = 4\pi r^2$, where r is the length of the radius. Find the surface area of a sphere with a radius of 14 feet. Use $\frac{22}{7}$ for π .
 A. 7248 sq ft B. 7744 sq ft C. 2464 sq ft D. 704 sq ft
4. Name all the sets of numbers to which $-\frac{1}{3}$ belongs.
 A. natural numbers, rationals B. rationals, reals
 C. integers, rationals D. integers, rationals, reals
5. Name the property illustrated in the equation $-2\left(-\frac{1}{2}\right) = 1$.
 A. associative property of multiplication
 B. inverse property of multiplication
 C. distributive property
 D. commutative property of multiplication
6. Simplify $\frac{1}{3}(15x - 9) + \frac{1}{5}(25x + 5)$.
 A. $10x - 2$ B. $\frac{64x - 32}{3}$ C. $5x - 2$ D. $\frac{1}{15}(40x - 4)$
- Matt's scores on six weekly quizzes are 8, 7, 9, 8, 9, 10.**
7. What is the mode of the data?
 A. 8 B. 9 C. 8.5 D. 8 and 9
8. What is the median of the data?
 A. 8 B. 9 C. 8.5 D. 8 and 9
9. What is the mean of the data?
 A. 3 B. 8 C. 8.5 D. 10
- Solve each equation.**
10. $23 = 5 - \frac{2}{3}m$
 A. -42 B. -29.5 C. -27 D. 42
11. $18 = 3|4x - 10|$
 A. 1, -1 B. 1, 4 C. 4, -4 D. 4
12. $5(2x - 6) = 7x - 3$
 A. -9 B. 9 C. 11 D. 0

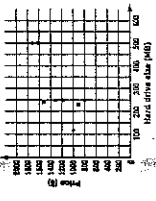
Chapter 1 Test, Form 1A (continued)

13. $|x - 3| + 10 = 2$
 A. -5 B. -6, 11 C. 11 D. 0
- Solve each inequality.**
14. $|2x - 3| \leq 7$
 A. $\{x | x \leq 5\}$ B. $\{x | -5 \leq x \leq 5\}$
 C. $\{x | -2 \leq x \leq 5\}$ D. {real numbers}
15. $0.38 > \frac{2x - 7}{5}$
 A. $\{x | x < 4.45\}$ B. $\{x | x < 98.5\}$ C. $\{x | x < 13\}$ D. $\{x | x < 3.69\}$
16. Jamie is 4 years younger than her brother. Five years from now, the sum of their ages will be 32. Find Jamie's present age.
 A. 9 B. 10 C. 13 D. 14
17. The digits 3, 4, 5, and 6 are used to form a four-digit code. No repeated digits are allowed. How many codes are possible?
 A. 12 B. 24 C. 6 D. 10
18. One number is four times another number. If you take one-half of the lesser number and increase it by the greater number, the result is at least 45. Find the least possible value for the lesser number.
 A. 10 B. 9 C. 11 D. 12
19. Which of the following is the solution set of $5x - 4 \geq 26$ or $29 - 3x > 2$?
 A. $\{x | 6 \leq x < 9\}$ B. $\{x | x \leq 6$ or $x > 9\}$
 C. {real numbers} D. $\{x | x \neq 9\}$
20. Identify the graph of $-2.3 < 4 + 0.9y$.
- A. 
- B. 
- C. 
- D. 
- Bonus** Before the homecoming dance, Xavier estimated that x tickets would be sold. Yolanda guessed that y tickets would be sold. It turned out that 264 tickets were actually sold for the dance. Xavier's guess was better than Yolanda's. Describe this situation using only one open sentence.
 A. $|x - 264| < |y - 264|$ B. $|x - 264| = |y - 264|$
 C. $|x - 264| > |y - 264|$ D. $|x - y| < 264$

Chapter 2 Test, Form 1A

Write the letter for the correct answer in the blank at the right of each problem.

1. Give the domain of $h = \{(-1, 4), (2, 7), (3, 7)\}$. Tell if h is a function.
 A. $\{4, 7\}$; h is a function.
 B. $\{4, 7\}$; h is not a function.
 C. $\{-1, 2, 3\}$; h is a function.
 D. $\{-1, 2, 3\}$; h is not a function.
2. If $g(x) = \frac{x^2 - 6x + 3}{x + 4}$, find $g(-2)$.
 A. $-8\frac{1}{2}$ B. $9\frac{1}{2}$ C. $\frac{17}{2}$ D. $19\frac{1}{2}$
3. Which equation is linear?
 A. $3x + \frac{2}{3}y = 10$
 B. $x^2 + 1 = y$
 C. $x^2 + y^2 = 16$
 D. $y = 2x^3$
4. Write $x = \frac{2}{3}y - \frac{1}{3}$ in standard form.
 A. $3x - 2y = 1$
 B. $2x - 3y = 1$
 C. $3x + 2y = -1$
 D. $3x - 2y = -1$
5. Which of the following is a prediction equation for the scatter plot shown at the right?
 A. $y = x + 760$ B. $y = -\frac{1}{2}x + 725$
 C. $y = \frac{4}{7}x + 750$ D. $y = \frac{7}{4}x + 790$
6. What is the slope of the line whose equation is $3x + 4y = 7$?
 A. $\frac{3}{4}$ B. $-\frac{3}{4}$ C. $-\frac{4}{3}$ D. $\frac{4}{3}$
7. What is the y-intercept of the line whose equation is $x + 3y = 2$?
 A. 2 B. $\frac{1}{2}$ C. $\frac{3}{2}$ D. $\frac{2}{3}$
8. What is the x-intercept of the line whose equation is $\frac{1}{3}x + 5y = 9$?
 A. $-\frac{9}{5}$ B. $\frac{9}{5}$ C. -3 D. 3
9. What is the slope of a line passing through (1, 4) and (3, 8)?
 A. $\frac{1}{2}$ B. $-\frac{1}{2}$ C. -2 D. 2
10. What is the standard form of an equation for a line that passes through (-1, -2) and has slope -3?
 A. $3x + y = -5$ B. $3x + y = -1$ C. $3x + y = 5$ D. $3x + y = -7$
11. What is the slope-intercept form of the equation of a line that passes through (1, 4) and is perpendicular to a line whose equation is $y = \frac{2}{3}x + 5$?
 A. $y = \frac{2}{3}x + \frac{10}{3}$ B. $y = -\frac{3}{2}x + 7$
 C. $y = -\frac{3}{2}x + \frac{5}{2}$ D. $y = -\frac{3}{2}x + 2$
12. For which equation is the graph a vertical line?
 A. $x = 3$ B. $y = 3$ C. $x = y$ D. $y = |x|$



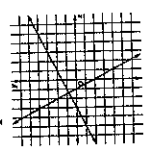
Chapter 2 Test, Form 1A (continued)

13. For which pair of equations are the lines parallel?
 A. $5x + 3y = 15$ and $3x + 3y = 15$ B. $x + 2y = 7$ and $x = -2y + 10$
 C. $y = 2x + 3$ and $y = 3x + 2$ D. $y = 3x$ and $y = -\frac{1}{3}x$
 14. The table shows the relationship between hours practiced and free throws made by 10 players. Which equation would best predict the number of free throws made by a player who practices 10 hours?
- | Hours (h) | 5 | 2 | 3 | 6 | 4 | 1 | 6 | 5 | 8 | 8 | 7 |
|------------------------|---|---|---|---|---|---|---|----|---|---|---|
| Free throws scored (s) | 7 | 5 | 5 | 8 | 8 | 7 | 7 | 10 | 9 | 8 | 8 |
- A. $s = h + 2$ B. $h = s + 2$ C. $s = 2h$ D. $h = \frac{1}{2}s$
- Write an equation for the line that satisfies each of the given conditions in slope-intercept form.
15. has slope $\frac{3}{4}$ and passes through $(-8, 1)$
 A. $y = \frac{3}{4}x + 7$ B. $y = \frac{3}{4}x - 5$ C. $y = \frac{3}{4}x + 5$ D. $y = \frac{3}{4}x - 2$
 16. passes through $(-2, 1)$ and $(-6, -4)$
 A. $y = \frac{5}{4}x + \frac{5}{2}$ B. $y = \frac{5}{4}x + \frac{3}{2}$ C. $y = \frac{5}{4}x - \frac{3}{2}$ D. $y = \frac{5}{4}x + \frac{7}{2}$
 17. Identify the graph of $-4y + 2x = 8$.
 A. B. C. D.
 18. Identify the graph of $y = |x + 2| - 3$.
 A. B. C. D.
 19. Which inequality is graphed at the right?
 A. $y > 3x - 1$ B. $y \geq 3x - 1$
 C. $y < 3x - 1$ D. $y \leq 3x - 1$
 20. For the step function $f(x) = [x]$, find $f(-1.8)$.
 A. -2 B. -1 C. 2 D. 1.8
- Bonus** Find the value of k for which the graph of $3x + ky = 1$ is perpendicular to the graph of $y + 2x = -5$.
 A. 6 B. -6 C. $-\frac{1}{2}$ D. $\frac{1}{2}$



Chapter 3 Test, Form 1A

Write the letter for the correct answer in the blank at the right of each problem.

- What kind of system of equations is $12x = 5 + 4y$?
 $6x + 8y = 5$
 A. consistent and independent B. consistent and dependent
 C. inconsistent D. inconsistent and dependent
- Which of the following systems is shown in the graph at the right?

 A. $2y + 4x = -4$ B. $-2y = -4x - 4$
 $2y = -x + 3$ C. $2y + 4x = -4$
 $-2y = x + 3$ D. $2y + 4x = -4$
- Which expression can be substituted for y in the top equation of the system $3x + 4y = -1$ to solve the system by substitution?
 A. $3 - x$ B. $x - 3$ C. $-\frac{4}{3}x - \frac{1}{3}$ D. $3x - 9$
- You want to eliminate x by addition in the system $2x - 3y = 2$
 $3x + 4y = 20$.
 A. You multiply each side of the top equation by 3, by which number would you multiply each side of the bottom equation?
 B. -2 C. 3 D. -3
 E. $2c - d = 7$
 $5c + 2d = 4$
- What does d equal in the solution of the system at the right?
 A. 2 B. -3 C. 3 D. -4
- For which system are there infinitely many solutions?
 $3x + 5y = 7$ A. $x - 5y = 7$ B. $x - 5y = 8$ C. $3x - y = 1$
 $6x + 10y = 14$ D. $2x = 10y + 15$ E. $3x + y = 10$ F. $y = 2x - 3$
- What does x equal in the solution of the system at the right?
 $\frac{x}{3} + \frac{y}{4} = 5$
 $\frac{x}{6} - \frac{y}{12} = 0$
 A. -6 B. -12 C. 12 D. 6
- One Internet provider has a monthly rate of \$11.95 and a connection fee of \$2.55 per hour. Another company's monthly rate is \$20, plus \$1.85 per hour. Both companies would charge the same amount for connecting to the Internet each month for
 A. 1.8 hours. B. 7.3 hours. C. 10 hours. D. 11.5 hours.
- Hunter's time for the 100-meter freestyle event was 57.9 seconds. His time for the second half of the race was 4.7 seconds slower than his time for the first half. What was Hunter's time for the first half?
 A. 31.3 s B. 26.6 s C. 21.9 s D. 36 s
- What is the value of $\begin{vmatrix} 11 & 8 \\ -12 & 6 \end{vmatrix}$?
 A. -30 B. 30 C. 162 D. 162
- Find the value of x that makes the sentence at the right true.
 $\begin{vmatrix} 6 & 3 \\ x & -2 \end{vmatrix} = 2x - 2$
 A. -2 B. 2 C. 10 D. -10

Chapter 3 Test, Form 1A (continued)

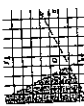
- Which expression represents y in the system at the right?

12	-2
18	2

4	12
3	18

4	2
3	18

2	-12
18	2

 A. $4x - 12 = 2y$ B. $3x + 2y = 18$
 C. $3x + 2y = 18$ D. $4x - 12 = 2y$
- Use the graph at the right for questions 13 and 14.

- Which system of inequalities is shown?
 A. $y > \frac{1}{2}x - \frac{3}{2}$ B. $y < \frac{1}{2}x - \frac{3}{2}$ C. $y > \frac{1}{2}x - \frac{3}{2}$ D. $y < \frac{1}{2}x - \frac{3}{2}$
 E. $y > -2x - 4$ F. $y > -2x + 4$ G. $y < -2x - 4$ H. $y < -2x + 4$
- Which point is a solution to the system in the graph?
 A. $(0, -2)$ B. $(-1, -2)$ C. $(0, 0)$ D. none of these
- Given $0 \leq x \leq 4$, $0 \leq y \leq 3$, and $y \leq -x + 5$, find the maximum value of $f(x, y) = 2x + 3y$.
 A. 8 B. 9 C. 11 D. 13
- A farmer has 15 days in which to plant corn and beans in a 300-acre field. The corn can be planted at a rate of 30 acres per day and the beans at a rate of 15 acres per day. If corn profits are \$85 per acre and bean profits are \$42 per acre, how many acres of beans should the farmer plant to maximize the profit?
 A. 225 acres B. 150 acres C. 300 acres D. 100 acres
- How many multiples of 4 or 5 (or both) are there from 1-1000?
 A. 200 B. 250 C. 450 D. 400
- A feasible region has vertices at $(-4, 4)$, $(\frac{3}{2}, 2)$, $(1, -\frac{5}{2})$, and $(-3, 0)$. The maximum value of the function $f(x, y) = 8x - 4y$ for this region is 18 at
 A. $(-4, 4)$ B. $(\frac{3}{2}, 2)$ C. $(1, -\frac{5}{2})$ D. $(-3, 0)$
- Which ordered triple is a solution of the system shown at the right?
 $9x - 4y + 3z = -10$
 $5x + 5y - z = -4$
 $4x - 7y + 11z = -52$
 A. $(-6, -2, 0)$ B. $(0, -2, -6)$ C. $(-1, 3, 5)$ D. $(5, 3, -1)$
- What does x equal in the solution of the system at the right?
 $x + y + 2z = 10$
 $x - y - 4z = 6$
 $2x + y + 3z = 2$
 A. 0 B. -1 C. 1 D. 2

Write the letter for the correct answer in the blank at the right of each problem.

1. Points R, S, and T were joined by segments with three other points, X, Y, and Z, to get three segments. Point R was not joined with Z. Point S was not joined with Y or Z. If an x indicates points that were not joined, which matrix shows the information correctly?

A.	X	Y	Z				
R	✓	x	x	✓	x	✓	x
S	x	✓	x	x	✓	x	✓
T	x	x	✓	x	✓	x	✓

B.	X	Y	Z				
R	x	✓	x	x	✓	x	✓
S	x	✓	x	x	✓	x	✓
T	✓	x	x	✓	x	✓	x

C.	X	Y	Z				
R	x	✓	x	x	✓	x	✓
S	✓	x	x	x	✓	x	✓
T	x	x	✓	x	✓	x	✓

D.	X	Y	Z				
R	✓	x	x	x	✓	x	✓
S	x	x	✓	x	✓	x	✓
T	x	x	✓	x	✓	x	✓

2. Name matrix B using its dimensions if $B = \begin{bmatrix} 1 & 2 & 3 & 4 \\ 6 & -2 & 8 & -4 \end{bmatrix}$.

- A. $B_{4 \times 1}$ B. $B_{1 \times 4}$ C. $B_{1 \times 1}$ D. $B_{4 \times 4}$

3. What are the dimensions of $\begin{bmatrix} 1 & 5 & 0 & -1 \\ 6 & -2 & 8 & -4 \end{bmatrix}$?

- A. 2×4 B. 4×4 C. 2×2 D. 4×2

4. Find $-\frac{2}{3} \begin{bmatrix} -1 & 6 & 12 \\ 9 & -3 & 15 \end{bmatrix}$.

- A. $\begin{bmatrix} \frac{2}{3} & -4 & -8 \\ -6 & 2 & -10 \end{bmatrix}$ B. $\begin{bmatrix} \frac{2}{3} & -4 & -8 \\ 9 & -3 & 15 \end{bmatrix}$ C. $\begin{bmatrix} \frac{2}{3} & 4 & 8 \\ 6 & -2 & -10 \end{bmatrix}$ D. $\begin{bmatrix} 2 & -12 & -24 \\ 27 & -9 & 45 \end{bmatrix}$

5. Find $\begin{bmatrix} 1 & 11 \\ -4 & -9 \end{bmatrix} - \begin{bmatrix} 3 & -5 \\ 8 & -6 \end{bmatrix}$.

- A. $\begin{bmatrix} 4 & 6 \\ 4 & -15 \end{bmatrix}$ B. $\begin{bmatrix} 14 \\ -15 \end{bmatrix}$ C. $\begin{bmatrix} -7 & 17 \\ -7 & -4 \end{bmatrix}$ D. $\begin{bmatrix} -2 & 16 \\ -12 & -3 \end{bmatrix}$

6. Find the value of x for which $\begin{bmatrix} 2x \\ 3y \end{bmatrix} = \begin{bmatrix} 11 + 3y \\ x - 4 \end{bmatrix}$ is true.

- A. 1 B. -1 C. 7 D. -7

7. What is the value of $\begin{bmatrix} -1 & 3 & 2 \\ 4 & -2 & 1 \\ 3 & -3 & -4 \end{bmatrix}$?

- A. 34 B. -86 C. -34 D. 86

8. Find the first row of $\begin{bmatrix} 2 & -3 \\ 1 & 4 \\ 6 & -2 \end{bmatrix}$.

- A. [18 8] B. [0 -21] C. [-18 20] D. [0 21]

9. Which is the identity for a 3×3 matrix?

- A. $\begin{bmatrix} 1 & 1 & 1 \\ 1 & 1 & 1 \\ 1 & 1 & 1 \end{bmatrix}$ B. $\begin{bmatrix} 1 & 0 & 0 \\ 1 & 0 & 0 \\ 1 & 0 & 0 \end{bmatrix}$ C. $\begin{bmatrix} 0 & 1 & 0 \\ 0 & 1 & 0 \\ 0 & 1 & 0 \end{bmatrix}$ D. $\begin{bmatrix} 0 & 0 & 0 \\ 0 & 0 & 0 \\ 0 & 0 & 0 \end{bmatrix}$

10. Find the area of a triangle with vertices with coordinates $(-2, 6)$, $(1, 5)$, and $(6, -3)$.

- A. $\frac{19}{2}$ B. $-\frac{19}{2}$ C. 19 D. -19

11. If $A_{2 \times 5}$ is multiplied by $B_{5 \times 1}$, what are the dimensions of the product?

- A. 2×5 B. 5×5 C. 2×1 D. 5×2

12. What are the dimensions of the product shown $\begin{bmatrix} 3 \\ 3 \end{bmatrix} \cdot \begin{bmatrix} 4 \\ 4 \end{bmatrix}$ at the right?

- A. 1×1 B. 1×2 C. 2×1 D. 2×2

13. Find the first row of the inverse of $\begin{bmatrix} 3 & 4 \\ -2 & 4 \end{bmatrix}$.

- A. $\begin{bmatrix} \frac{1}{5} & \frac{1}{5} \\ \frac{1}{5} & -\frac{1}{5} \end{bmatrix}$ B. $\begin{bmatrix} \frac{1}{5} & -\frac{1}{5} \\ \frac{1}{5} & \frac{1}{5} \end{bmatrix}$ C. $\frac{1}{20}$ D. $\begin{bmatrix} \frac{3}{20} & \frac{1}{6} \\ \frac{1}{20} & \frac{1}{6} \end{bmatrix}$

14. For the data shown in the box-and-whisker plot, 9 is the

- A. median. B. lower quartile. C. upper quartile. D. range.

15. Which augmented matrix is not equivalent to the augmented matrix at the right?

- A. $\begin{bmatrix} 3 & -1 & 4 \\ 7 & 1 & 2 \end{bmatrix} \left| \begin{bmatrix} 3 \\ 4 \end{bmatrix} \right.$ B. $\begin{bmatrix} 3 & -1 & 4 \\ 2 & 1 & -1 \end{bmatrix} \left| \begin{bmatrix} 4 \\ 3 \end{bmatrix} \right.$ C. $\begin{bmatrix} 4 & 2 & -2 \\ 3 & -1 & 4 \end{bmatrix} \left| \begin{bmatrix} -2 \\ 4 \end{bmatrix} \right.$ D. All are equivalent.

16. If the system $\begin{cases} 3x - y = 1 \\ 2x + y = 4 \end{cases}$ is written as a matrix equation, by which matrix could you multiply both sides to obtain the solution?

- A. $\begin{bmatrix} \frac{1}{5} & \frac{2}{5} \\ -\frac{2}{5} & \frac{3}{5} \end{bmatrix}$ B. $\begin{bmatrix} 1 & 1 \\ -2 & 3 \end{bmatrix}$ C. $\begin{bmatrix} \frac{2}{5} & \frac{2}{5} \\ -\frac{1}{5} & \frac{1}{5} \end{bmatrix}$ D. $\begin{bmatrix} \frac{1}{5} & -\frac{2}{5} \\ \frac{1}{5} & \frac{3}{5} \end{bmatrix}$

17. If the augmented matrix for a system is $\begin{bmatrix} 1 & 3 & -2 \\ 3 & -1 & 0 \end{bmatrix}$, what is the system?

- A. $x + 3y = -2$ B. $x - 2y = 3$ C. $x - 3y = -2$ D. $-2x + 3y = -2$

18. For what value of k does the system at the right not have a unique solution?

- A. $\frac{10}{3}$ B. -3 C. 0 D. -9

19. The augmented matrix for a system is $\begin{bmatrix} 0 & 2 & 4 \\ 1 & 0 & 2 \end{bmatrix}$. What is the solution?

- A. (4, 2) B. (2, 2) C. (2, 1) D. (2, 4)

20. Find the value of x for which $4 \begin{bmatrix} x \\ 2x \end{bmatrix} + 2 \begin{bmatrix} 8y \\ 6y \end{bmatrix} = -2 \begin{bmatrix} 0 \\ -2 \end{bmatrix}$.

- A. $-\frac{1}{6}$ B. $\frac{1}{5}$ C. $-\frac{4}{5}$ D. $\frac{4}{5}$

Bonus A triangle has an area of 7. It has vertices with coordinates (2, 4), (4, 5), and (x, 0). Find all possible values for x.

- A. 24 B. 14 C. 24 and -4 D. 14 and -14

Chapter 5 Test, Form 1A

Write the letter for the correct answer in the blank at the right of each problem.

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
1. Simplify $\frac{18x^3y^4}{24x^2y^6}$.
 A. $\frac{3x^5}{4y^2}$ B. $\frac{3y^{10}}{4}$ C. $\frac{3x^5}{4y^{10}}$ D. $\frac{3x^5y^{10}}{4}$
2. Simplify $(5x - 4)^2$.
 A. $25x^2 - 16$ B. $25x^2 - 20x + 16$
 C. $25x^2 - 40x + 16$ D. $25x^2 + 40x + 16$
3. Simplify $(3y^4)(2y)^3$.
 A. $24y^7$ B. $18y^7$ C. $24y^{12}$ D. $18y^{12}$
4. Simplify $(x - 3)(x^2 + 4x + 1)$.
 A. $x^3 + x^2 + x - 3$ B. $x^3 - 12x - 3$
 C. $x^3 + 4x^2 - 11x - 3$ D. $x^3 + x^2 - 11x - 3$
5. Simplify $\left(\frac{3x-1}{y-2}\right)^0$.
 A. 0 B. 1 C. $\frac{3x}{y^2}$ D. $\frac{3y^2}{x}$
6. Express 12,100,000,000 in scientific notation.
 A. 1.21×10^8 B. 1.21×10^{10} C. 1.21×10^{-10} D. 1.21×10^{-8}
7. Simplify $\frac{1+2i}{2-3i}$.
 A. $\frac{8+i}{7}$ B. $\frac{8+7i}{7}$ C. $-4+7i$ D. $\frac{-4+7i}{13}$
8. Evaluate $\frac{6 \times 10^{-2}}{20 \times 10^{-5}}$. Express the answer in scientific notation.
 A. 0.3×10 B. 3×10^2 C. 0.3×10^{-3} D. 3×10^{-4}
9. Simplify $(7x^3 - 2x^2 + 3) + (x^2 - x - 5)$.
 A. $7x^3 - 2x^2 - x - 2$ B. $7x^3 - 3x^2 - 2$
 C. $8x^3 - 3x^2 - 2$ D. $7x^3 - x^2 - x - 2$
10. Simplify $\sqrt{-(-15)^2}$.
 A. ± 15 B. $|15|$ C. -15 D. no real roots
11. Simplify $(5 + 2\sqrt{3})(2 - 4\sqrt{3})$.
 A. $10 - 8\sqrt{3}$ B. $-14 - 16\sqrt{3}$ C. -14 D. $-62 - 16\sqrt{3}$

Chapter 5 Test, Form 1A (continued)

Factor each polynomial completely.

12. $27x^3 - 1$
 A. $(3x - 1)(9x^2 + 3x + 1)$ B. $(3x - 1)(9x^2 - 3x - 1)$
 C. $(3x - 1)^3$ D. $(3x - 1)(3x + 1)^2$
13. $p^3 - 4yp^2 + 4y^2p$
 A. $(p - 2y)(p^2 - 2yp)$ B. $p(p^2 - 4yp + 4y^2)$
 C. $p(p - 2y)^2$ D. $p^3 - 4yp(y - p)$
14. $7y^2 - 32y - 15$
 A. $(7y - 3)(y + 5)$ B. $(7y + 3)(y - 5)$
 C. $(7y + 3)(y + 5)$ D. $(7y - 3)(y - 5)$
15. Simplify $\frac{5}{2 - \sqrt{3}}$.
 A. $10 + 5\sqrt{3}$ B. $10 - 5\sqrt{3}$ C. $-10 - 5\sqrt{3}$ D. $-10 + 5\sqrt{3}$
16. Simplify $\frac{1}{\frac{2}{5}}$.
 A. $5^{\frac{2}{5}}$ B. $\frac{\sqrt{5}}{5}$ C. $\frac{1}{\sqrt{25}}$ D. $5\sqrt{5}$
17. Divide using long division: $(6x^3 - 16x^2 + 11x - 5) \div (3x - 2)$.
 A. $6x^2 - 12x + 3 - \frac{9}{3x-2}$ B. $2x^2 - 4x + 1 - \frac{9}{3x-2}$
 C. $2x^2 - 4x + 1 - \frac{1}{3x-2}$ D. none of these
18. Solve $\sqrt[3]{y-3} - 6 = -4$.
 A. $\{-11\}$ B. $\{11\}$ C. $\{1000\}$ D. $\{-1000\}$
19. Simplify $(5 - 3i)^2$.
 A. $16 - 30i$ B. 34 C. $34 - 30i$ D. 16
20. Divide by using synthetic division:
 $(2x^4 - 3x^3 - 6x^2 - 8x - 3) \div (x - 3)$.
 A. $2x^3 + 3x^2 + 3x + 1$ B. $-2x^3 - 3x^2 - 3x - 1$
 C. $2x^3 - 9x^2 + 21x - 71 + \frac{210}{x-3}$ D. $2x^2 + 3x + 3 + \frac{1}{x-3}$
- Bonus** Factor $(x - 3)^2 - 2(x - 3)(y + 2) - 35(y + 2)^2$.
 A. $(x - 7y - 17)(x + 5y + 7)$ B. $(x + 7y + 11)(x - 5y - 13)$
 C. $(x - 7y + 17)(x + 5y - 7)$ D. not factorable