1. In which quadrant does the point (-3, -4) lie?
   a. Quadrant I
   b. Quadrant II
   c. Quadrant III
   d. Quadrant IV

2. (3x + 2)(3x + 2) is the factored expression of which trinomial?
   a. 9x^2 + 4
   b. 9x^2 + 6x + 4
   c. 9x^2 + 12x + 4
   d. 9x^2 + 36x + 4

3. If 4(3x + 2) - (x + 5) = -3 then x = ?
   a. 11/6
   b. -11/6
   c. 6/11
   d. -6/11

4. (3x^3y)^3 = ?
   a. 9x^9y^3
   b. 9x^6y^3
   c. 27x^9y^3
   d. 27x^6y^3

5. (x - 2) is a factor of which polynomial?
   I. x^2 - 4x + 4
   II. x^2 + x - 6
   a. I only
   b. II only
   c. I and II
   d. neither

6. \[ \frac{2}{2/x + 2/y} = ? \]
   a. \(\frac{x + y}{xy}\)
   b. \(\frac{xy}{x + y}\)
   c. \(x + y\)
   d. \(\frac{x + y}{4}\)

7. x = |-4-5|  y = |-4-(-5)|  z = |-4| - |-5|
   Which is true about x, y, and z?
   a. x < z
   b. z < y
   c. x = z
   d. y = z

8. \[ \frac{3x}{2y} \cdot \frac{8y^2}{27x} = ? \]
   a. 4y/3
   b. 4y/9
   c. 4y/3x
   d. 4y/9x
9. \[
M - 9 = 1
\]
All of the following mean the same as the given equation except:

a. M is one more than nine
b. M is nine more than one
c. One is nine less than M
d. Nine is M less than one

10. Solve for x and y:
\[
\begin{align*}
2x + y &= 3 \\
x - 3y &= 12
\end{align*}
\]

a. (3, 9)  
b. (3, -9)  
c. (3, -3)  
d. (3, 3)

11. M is 8 more than a second number. Which of the following represents the second number?

a. M - 11  
b. M - 8  
c. M + 8  
d. M + 17

12. Which pair of equations does NOT have a common solution?

a. \[
\begin{align*}
x + y &= -1 \\
4x - 3y &= 24
\end{align*}
\]

b. \[
\begin{align*}
4x + 6y &= 12 \\
6x + 9y &= 12
\end{align*}
\]

c. \[
\begin{align*}
2x - 3y &= -4 \\
2x + y &= 4
\end{align*}
\]

d. \[
\begin{align*}
5x - 4y &= 9 \\
x - 2y &= -3
\end{align*}
\]

13. \[
24x - 8 = ?
\]

a. 8x  
b. 8(3x - x)  
c. 8(3x - 1)  
d. 8(3x - 8)

14. \[
(2x - 5y)^2 = ?
\]

a. \[
4x^2 - 25y^2
\]

b. \[
4x^2 - 10xy + 25y^2
\]

c. \[
4x^2 + 20xy - 25y^2
\]

d. \[
4x^2 - 20xy + 25y^2
\]

15. \[
(9 - 7) - (7 - 9) = ?
\]

a. 0  
b. 4  
c. -4  
d. -14

16. \[
(5\sqrt{3x})^2 = ?
\]

a. \[
15x^2
\]

b. \[
45x^2
\]

c. \[
75x^2
\]

d. \[
75x
\]
17. \( \frac{4x}{5} - \frac{2x}{3} + \frac{x}{2} = ? \)
   a. 3x/30
   b. x/10
   c. 19x/30
   d. 19/30

18. Which of the following is equal to \( x^2 - 10x + 24 \)?
   a. \((x - 4)(x + 6)\)
   b. \((x + 4)(x - 6)\)
   c. \((x - 4)(x - 6)\)
   d. \((x + 4)(x + 6)\)

19. \( \frac{3x^2 - 15x}{3x} = ? \)
   a. x - 5x
   b. x - 5
   c. \(x^2 - 5x\)
   d. \(x^2 - 5\)

20. Which of the following equals 12x?
   a. 6x \cdot 6x
   b. 13x^2 - x
   c. -8x + 20x
   d. 12 + x

21. If \( x^2 + m - 6y^2 = (x + 3y)(x - 2y) \) then \( m = ? \)
   a. xy
   b. -xy
   c. 5xy
   d. -5xy

22. \((-1)^4 = ?\)
   a. 4
   b. -4
   c. 1
   d. -1

23. \( \frac{4}{3x} \cdot \frac{3}{2x} = ? \)
   a. 12/6x^2
   b. 2/x^2
   c. 2/x
   d. 2

24. \( \frac{2x^2}{3y} \cdot \frac{y^3}{8x} = ? \)
   a. \(xy^2/12\)
   b. \(xy^3/12\)
   c. \(x^2y^3/12\)
   d. \(x^2y/12\)

25. Which of the following statements represents this equation? \( \frac{x}{3} - 5 = 8 \)
   a. One-third a number \( x \) less than five equals eight
   b. Five minus one-third a number \( x \) equals eight
   c. Five less than one-third a number \( x \) equals eight
   d. Eight is one-third a number \( x \) less than 5
26. If \( x = 5 \) and \( y = 3 \) then \( \frac{2x - 3y}{x - y} = ? \)
   a. \( \frac{19}{2} \)
   b. \( \frac{1}{8} \)
   c. \( \frac{1}{2} \)
   d. \( \frac{19}{8} \)

27. Which is NOT between -1 and 1?
   a. \( \frac{-5}{6} \)
   b. \( \frac{7}{8} \)
   c. \( \frac{-1}{2} \)
   d. \( \frac{3}{2} \)

28. Which is the correct factored form of \( 24x^2 - 2x - 15 \)?
   a. \( (4x - 3)(6x + 5) \)
   b. \( (4x + 3)(6x - 5) \)
   c. \( (4x - 3)(6x - 5) \)
   d. \( (4x + 3)(6x + 5) \)

29. \( (-3)(-1) + (4)(-3) / (-2) = ? \)
   a. \( -3 \)
   b. \( 9/2 \)
   c. \( 9 \)
   d. \( 15 \)

30. \( \sqrt{64x^8y^6z^4} = ? \)
   a. \( 8x^8y^6z^4 \)
   b. \( 8x^4y^3z^2 \)
   c. \( 8\sqrt{x^8y^6z^4} \)
   d. \( 128x^{16}y^{12}z^8 \)
|   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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| 14 | D |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |   |
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## Elementary Algebra
### Self-Assessment Analysis
#### What to Study

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*Section topics in Keedy/Bittinger’s Introductory Algebra, 6th Edition, 1991*