

**OSU-Okmulgee
Elementary Algebra
Self-Assessment Exam**

- 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 :

$$2x + y = 3$$

$$x - 3y = 12$$

- 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. $x + y = -1$
 $4x - 3y = 24$
- b. $4x + 6y = 12$
 $6x + 9y = 12$
- c. $2x - 3y = -4$
 $2x + y = 4$
- d. $5x - 4y = 9$
 $x - 2y = -3$

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. $(5\sqrt{3}x)^2 = ?$

- 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? $x/3 - 5 = 8$

- 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. $19/2$
- b. $1/8$
- c. $1/2$
- d. $19/8$

27. Which is NOT between -1 and 1?

- a. $-5/6$
- b. $7/8$
- c. $-1/2$
- d. $3/2$

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. $128x^{16}y^{12}z^8$

**ELEMENTARY ALGEBRA
SELF-ASSESSMENT EXAM
KEY**

- | | | | |
|-----|---|-----|---|
| 1. | C | 16. | D |
| 2. | C | 17. | C |
| 3. | D | 18. | C |
| 4. | C | 19. | B |
| 5. | C | 20. | C |
| 6. | B | 21. | A |
| 7. | B | 22. | C |
| 8. | B | 23. | B |
| 9. | D | 24. | A |
| 10. | C | 25. | C |
| 11. | B | 26. | C |
| 12. | B | 27. | D |
| 13. | C | 28. | B |
| 14. | D | 29. | C |
| 15. | B | 30. | B |

**Elementary Algebra
Self-Assessment Analysis
What to Study**

<u>PROBLEMS</u>	<u>TOPIC AREAS</u>	<u>SECTIONS COVERED</u>
1	Graph coordinates in a plane	Section 6.1
2, 21	Multiply binomials using FOIL Method	Section 3.6
5, 18, 28	Factor trinomials of the form $x^2 + bx + c$	Section 4.2, 4.3, 4.4
3	Solve equations using Distributive Property	Section 2.3
4, 22	Laws of exponents	Section 3.1
6	Simplify complex fractions and finding LCD	Section 5.9
7	Absolute Value Principle	Section 1.2
8, 24	Multiply exponential expressions with fractions	Section 5.1
9, 25, 11	Translate word sentences to algebraic expressions	Section 1.1
10	Solve for two equations with two variables	Section 7.2, 7.3
12	Determine type of solution of 2×2	Section 7.3
13	Factor out the GCF of an algebraic expression	Section 4.1
14	Squaring binomials	Section 3.6
15	Simplify using Distributive Property of -1	Section 1.8
16, 30	Simplify radical expressions	Section 8.1, 8.2
17, 23 5.5	Add, subtract, multiply, divide algebraic fractions	Section 5.1, 5.2, 5.3, 5.4,
19, 20 3.8	Add, subtract, multiply, and divide polynomials	Section 3.4, 3.5, 3.6, 3.7,
26	Substitute values for variables and evaluate	Section 1.1, 3.1
27	Positive and negative values on the number line	Section 1.2
29	Order of Operations	Section 1.8

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