# Grade 8 - Final Exam Practice Test
## Algebra 1 -Trimester 3

NAME _____ CLASS _____ Date: _____ /20

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**1. Choose the correct answer.** The question numbers on this paper are not in order or sequence.

1. Solve for x: $x + 9 = 17$
- A. 26
- B. 9
- C. 8
- D. -8

2. Solve for y: $y - 5 = 11$
- A. 16
- B. 6
- C. -16
- D. 11

3. Solve for z: $6z = 54$
- A. 8
- B. 10
- C. 9
- D. 48

7. What is the solution to $3(x - 2) = x + 8$?
- A. $x = 7$
- B. $x = -7$
- C. $x = 5$
- D. $x = 4$

4. Solve for a: $-\frac{a}{5} = 7$
- A. 12
- B. -35
- C. 2
- D. 30

5. Solve for m: $m + 15 = 0$
- A. 15
- B. 0
- C. -15
- D. -30

6. Solve for x: $4x + 3 = 3x + 11$
- A. 14
- B. 8
- C. -8
- D. 7

10. If $8x + 1 = 5x + 16$, what is the value of x?
- A. 3
- B. 5
- C. 7
- D. 9

8. Find x if $4x - 6 = 2(x + 3)$.
- A. $x = 6$
- B. $x = 3$
- C. $x = -6$
- D. $x = -3$

9. Solve: $5(x + 1) - 4 = 3x + 8$
- A. $x = 3$
- B. $x = 1$
- C. $x = 2$
- D. $x = 4$

17. Multiply $(3x - 2)(x + 5)$.
- A. $3x^2 + 13x - 10$
- B. $3x^2 + 15x - 10$
- C. $3x^2 + 13x + 10$
- D. $3x^2 - 13x - 10$

11. What is the sum of $(4x^2 + 3x + 2) + (2x^2 - x + 5)$?
- A. $6x^2 + 2x + 7$
- B. $6x^2 + 4x + 7$
- C. $2x^2 + 2x + 7$
- D. $6x^2 + 2x - 3$

18. Find the product: $(x - 4)(x - 3)$.
- A. $x^2 - 7x + 12$
- B. $x^2 - x + 12$
- C. $x^2 - 12x + 7$
- D. $x^2 - 7x - 12$

22. Expand and simplify: $(x + 9)(x - 9)$.
- A. $x^2 - 81$
- B. $x^2 + 81$
- C. $x^2 - 18x + 81$
- D. $x^2 + 18x - 81$

14. Find the result when $(3x^2 - 5x + 4)$ is subtracted from $(7x^2 + x - 2)$.
- A. $4x^2 + 6x - 6$
- B. $10x^2 - 4x + 2$
- C. $4x^2 - 4x - 6$
- D. $10x^2 + 6x - 6$

12. Subtract $(x^2 - 4x + 3)$ from $(5x^2 + 2x - 1)$.
- A. $4x^2 + 6x - 4$
- B. $6x^2 - 2x + 2$
- C. $4x^2 - 2x + 4$
- D. $5x^2 + 6x - 4$

21. Which of the following is the product of $(3x - 2)(3x + 2)$?
- A. $9x^2 - 4$
- B. $9x^2 + 4$
- C. $6x^2 - 4$
- D. $9x^2 - 12x + 4$

23. If $(x + 5)^2 = x^2 + bx + 25$, what is b?
- A. 25
- B. 10
- C. 5
- D. 20

25. Which expression is equivalent to $6(a - 4)$?
- A. $6a - 24$
- B. $6a - 4$
- C. $a - 24$
- D. $6a + 24$

13. What is $(2x^2 + x - 3) + (5x^2 - 2x + 7)$?
- A. $7x^2 - x + 4$
- B. $7x^2 + 3x + 4$
- C. $3x^2 - x + 10$
- D. $7x^2 - x - 4$

24. Apply the distributive property to $5(x + 7)$.
- A. $5x + 35$
- B. $5x + 7$
- C. $x + 35$
- D. $12x$

27. Solve by factoring: $x^2 - 9x + 20 = 0$
- A. $x = 4$ or $x = 5$
- B. $x = 2$ or $x = 10$
- C. $x = -4$ or $x = -5$
- D. $x = 1$ or $x = 20$

20. What is the expanded form of $(x + 6)^2$?
- A. $x^2 + 12x + 36$
- B. $x^2 + 6x + 36$
- C. $x^2 + 36$
- D. $x^2 + 6x + 6$

15. What is the sum of $(8x^2 - 3x) + (-2x^2 + 7x + 1)$?
- A. $6x^2 + 4x + 1$
- B. $10x^2 + 4x + 1$
- C. $6x^2 - 10x + 1$
- D. $6x^2 + 10x + 1$

26. Factor and solve: $x^2 + 7x + 12 = 0$
- A. $x = -3$ or $x = -4$
- B. $x = 3$ or $x = 4$
- C. $x = -12$ or $x = 1$
- D. $x = 12$ or $x = -1$

30. Factor and solve: $x^2 + x - 12 = 0$
- A. $x = 3$ or $x = -4$
- B. $x = -3$ or $x = 4$
- C. $x = 12$ or $x = -1$
- D. $x = -12$ or $x = 1$

29. Solve: $x^2 - 6x - 16 = 0$
- A. $x = 8$ or $x = -2$
- B. $x = -8$ or $x = 2$
- C. $x = 4$ or $x = -4$
- D. $x = 16$ or $x = -1$

16. What is the product of $(x + 4)(x + 3)$?
- A. $x^2 + 7x + 12$
- B. $x^2 + 12x + 7$
- C. $x^2 + 7x + 7$
- D. $x^2 + 12$

31. A bakery sells boxes of cookies. Each box contains 6 cookies, and each cookie costs 2 dollars. Write an expression for the total cost of 4 boxes, and find the total cost.

A. 12
B. 24
C. 36
D. 48

28. Which of the following is the correct factorization of $x^2 + 9x + 20$?
- A. $(x + 4)(x + 5)$
- B. $(x + 2)(x + 10)$
- C. $(x + 1)(x + 20)$
- D. $(x - 4)(x - 5)$

19. What is the result of multiplying $(2x)(x^2 - 3x + 4)$?
- A. $2x^3 - 6x^2 + 8x$
- B. $2x^2 - 6x + 8$
- C. $2x^3 - 3x^2 + 4x$
- D. $2x^3 - 6x^2 + 4x$

A rectangular playground has a length that is 4 m greater than its width. The area of the playground is 96 m². Answer the following questions:

A. Define a variable. L = , w =

B. Create a quadratic equation. $x^2 +$

C. Solve the equation by factoring. x = or x =

D. Find the dimensions of the playground. L = , w =

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