

A calculator is allowed on this exam.

1. Simplify: $\frac{|-13-9|-4^2}{-2-(-4)}$
- A) -3 B) 19 C) -19 D) 3
2. Evaluate the expression $4x^2 - 6x + 2$ when $x = -3$.
- A) 56 B) 54 C) -16 D) 20
3. Simplify: $-8x + 5y - (4x - 3y)$
- A) $12x - 2y$ B) $-12x - 8y$ C) $-4x + 2y$ D) $-12x + 8y$
4. Solve: $4x + 16 = -20$
- A) $x = -9$ B) $x = 9$ C) $x = -1$ D) $x = 1$
5. Solve: $-3(y + 3) = 2y + 6$
- A) $y = 3$ B) $y = -15$ C) $y = -3$ D) $y = \frac{3}{5}$
6. Select the correct translation. Four less than twice a number n is the difference between the number n and ten.
- A) $4 - 2n = n - 10$ B) $2n - 4 = n - 10$
- C) $2n - 4 = 10 - n$ D) $4 - 2n = 10 - n$

7. **Solve for y:** $4x + 5y = 7$

A) $y = \frac{4x+7}{5}$ B) $y = \frac{4x-7}{5}$ C) $y = \frac{-4x-7}{5}$ D) $y = \frac{-4x+7}{5}$

8. **Solve:** $-6x + 3 \leq 27$

A) $x \leq -4$ B) $x \geq -4$ C) $x \geq 4$ D) $x \geq -5$

9. **Simplify:** $(5x^4y^2)(-2x^2y^3)$

A) $-10x^8y^6$ B) $3x^6y^5$ C) $-10x^6y^5$ D) $\frac{x^6y^5}{10}$

10. **Simplify:** $\frac{12a^8b^9c}{3a^{-4}b^3c^2}$

A) $\frac{4a^{12}b^6}{c}$ B) $\frac{4b^6}{a^2c}$ C) $\frac{4a^{12}b^3}{c}$ D) $\frac{4a^4b^6}{c}$

11. **Write 0.00056 in scientific notation.**

A) 56×10^{-5} B) 5.6×10^4 C) 5.6×10^{-3} D) 5.6×10^{-4}

12. **Simplify:** $(-7x^2 + 8x - 5) - (3x^2 - 2x - 1)$

A) $-4x^2 + 6x - 6$ B) $-10x^4 + 10x^2 - 4$

C) $-10x^2 + 10x - 4$ D) $-10x^2 + 10x + 4$

13. Simplify: $(x + 4y)(x - 2y)$

A) $x^2 + 2x^2y^2 - 8y^2$

B) $x^2 - 8y^2$

C) $x^2 - 2xy - 8y^2$

D) $x^2 + 2xy - 8y^2$

14. Factor using the GCF method: $24a^3b - 36a^4b^2c$

A) $6a^3bc(4 - 6ab)$

B) $12a^3bc(2 - 3ab)$

C) $6a^3b(4 - 6abc)$

D) $12a^3b(2 - 3abc)$

15. Identify one of the factors of $6a^2 - 2ab + 3ab - b^2$

A) $2a + b$

B) $3a + b$

C) $a - b$

D) $2a - b$

16. Simplify: $\frac{x^2 + 2x - 24}{x^2 - 36}$

A) $\frac{2}{3}$

B) $\frac{2}{x} + \frac{2}{3}$

C) $\frac{x - 4}{x - 6}$

D) $\frac{x + 4}{x + 6}$

Show all algebra work to receive any credit.

17. Find the original price of a pair of gold earrings if the sale price is \$60 after a 20% discount.

17. _____

18. Solve: $2x^2 - 19x + 24 = 0$

18. _____

19. The length of a rectangular garden is 4 feet longer than three times the width. If the perimeter is 96 feet, find the width and the length of the garden.

The width is _____ feet

The length is _____ feet

20. The usual dosage for a specific antibiotic is 3 cubic centimeters for every 40 pounds of body weight. At this rate, how much antibiotic should be given to a patient weighing 180 pounds?

20. _____

21. The sum of three consecutive integers is 381. Find the integers.

21. _____

22. The point $(-5, -6)$ is in which quadrant?

A) I

B) II

C) III

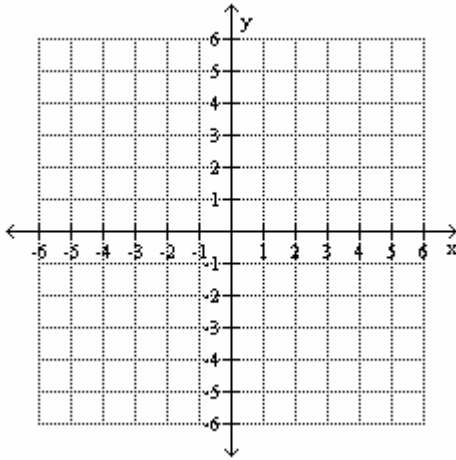
D) IV

23. Find the x - and y -intercepts of the graph of $3x - 4y = 12$.

x -intercept in ordered pair form is _____

y -intercept in ordered pair form is _____

24. For the equation $y = -4x - 3$ complete the table of ordered pairs. Then, use the ordered pairs to graph the equation.



x	y
-2	
-1	
0	

25. Simplify. Assume all variables represent positive real numbers.

$$\sqrt{44x^3y^6z}$$

25. _____

26. Simplify. Assume all variables represent positive real numbers.

$$\sqrt{48x^4y^5}$$

26. _____

27. Simplify. Assume all variables represent positive real numbers.

$$2\sqrt{18} + \sqrt{32}$$

27. _____

28. Simplify. Assume all variables represent positive real numbers.

$$\sqrt{6}(\sqrt{4} + \sqrt{6})$$

28. _____

