
MAT 0024
PRACTICE EXIT EXAM

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1. Simplify:

$$8 - 4 \div 2 - 10 \div 2$$

- A. -4
- B. 1
- C. -3
- D. 4

2. Simplify:

$$12 - (-3)^2 \div (7 - 4)$$

- A. 1
- B. 7
- C. 9
- D. 15

3. Simplify:

$$|-8| - |-5|$$

- A. -13
- B. -3
- C. 3
- D. 13

4. Simplify:

$$-2[x + 9(x + 1)]$$

- A. $20x + 18$
- B. $20x + 2$
- C. $-20x - 2$
- D. $-20x - 18$

5. Evaluate the given expression when $w = -2$:

$$3w^2 + 5w - 8$$

- A. 14
- B. - 6
- C. -11
- D. -30

6. Solve for x:

$$2(3x + 5) = 5x - 11$$

- A. $x = -21$
- B. $x = -16$
- C. $x = -\frac{21}{11}$
- D. $x = - 1$

7. Solve for x:

$$\frac{1}{2}x + 6 = 3 + 2x$$

- A. $x = 3$
- B. $x = 2$
- C. $x = 0$
- D. $x = -3$

8. Solve for x:

$$5w + 4x = 7k$$

- A. $x = \frac{7k + 5w}{4}$
- B. $x = 3kw$
- C. $x = \frac{7k - 5w}{4}$
- D. $x = 7k - 5w$

9. Solve:

$$2x + 1 < 3x + 4$$

- A. $x < 3$
- B. $x > 3$
- C. $x < -3$
- D. $x > -3$

10. If 4 times a number is increased by 7, the result is 15 less than the square of the number. Choose the equation that could be used to find this number, x .
- A. $4x + 7 = 15 - x^2$
 - B. $4(x + 7) = x^2 - 15$
 - C. $4x + 7 = x^2 - 15$
 - D. $11x = x^2 - 15$
11. The length of a rectangle is 2 feet more than the width. The perimeter of the rectangle is 20 feet. Find the length.
- A. 4 feet
 - B. 6 feet
 - C. 9 feet
 - D. 11 feet
12. Identify the proportion listed below that solves this problem.
A car can travel 189 miles on 9 gallons of gasoline. How far can the car travel on 13 gallons?
- A. $\frac{9}{189} = \frac{x}{13}$
 - B. $\frac{189}{9} = \frac{x}{13}$
 - C. $\frac{189}{13} = \frac{x}{9}$
 - D. $\frac{189}{x} = \frac{13}{9}$

13. Simplify:

$$(a^2b^3)^2$$

A. a^4b^9

B. a^2b^9

C. a^4b^6

D. a^4b^5

14. Simplify:

$$\frac{x^{-3}y^6}{x^{-4}y^4}$$

A. xy^2

B. $\frac{y^2}{x}$

C. $\frac{y^2}{x^7}$

D. x^7y^2

15. Simplify:

$$(a^2b^0c^{-1})^3$$

A. $a^5b^3c^2$

B. $\frac{a^6b^3}{c^3}$

C. $\frac{a^5}{c^3}$

D. $\frac{a^6}{c^3}$

16. Convert to standard form:

$$7.96 \times 10^{-2}$$

- A. 0.00796
- B. 0.0796
- C. 796
- D. 7,960

17. Simplify:

$$(3x^2 + 2x - 6) - (x^2 - x + 2)$$

- A. $2x^4 + 3x^2 - 8$
- B. $2x^2 + x - 4$
- C. $2x^2 + 3x - 4$
- D. $2x^2 + 3x - 8$

18. Simplify:

$$4x^3(2x^2 - 7)$$

- A. $8x^5 - 28x^3$
- B. $8x^6 - 7$
- C. $6x^5 - 28x^3$
- D. $8x^6 - 28x^3$

19. Simplify:

$$(5x - 9)(x + 6)$$

A. $5x^2 + 39x - 54$

B. $5x^2 + 21x - 3$

C. $5x^2 - 3x - 15$

D. $5x^2 + 21x - 54$

20. Factor completely:

$$12a^2b^2 - 3ab$$

A. $3ab(4ab)$

B. $3ab(4ab - 1)$

C. $3ab(4a^2b^2 - ab)$

D. $ab(12ab - 3)$

21. Factor completely:

$$4x^2 - 9$$

A. $(2x^2 + 3)(2x^2 - 3)$

B. $(2x + 3)(2x - 3)$

C. $(2x + 1)(2x - 9)$

D. $(2x - 3)((2x - 3)$

22. Factor completely:

$$ax - a + bx - b$$

- A. $(x + 1)(a + b)$
- B. $(x + 1)(a - b)$
- C. $(x - 1)(a + b)$
- D. $(x - 1)(a - b)$

23. Identify a factor of the trinomial below:

$$5x^2 - 9x - 2$$

- A. $(5x + 2)$
- B. $(5x + 1)$
- C. $(x + 2)$
- D. $(x + 1)$

24. Simplify:

$$\frac{x^2 - 4x + 3}{1 - x}$$

- A. $-x + 3$
- B. $-x + 1$
- C. $x - 3$
- D. $x + 3$

25. Solve:

$$x^2 - 5x + 6 = 0$$

- A. $x = 2, x = 3$
- B. $x = -2, x = -3$
- C. $x = 1, x = 6$
- D. $x = -1, x = 6$

26. Solve:

$$3a^2 + 14a + 8 = 0$$

- A. $a = -\frac{2}{3}, a = -4$
- B. $a = \frac{2}{3}, a = 4$
- C. $a = -\frac{3}{2}, a = -4$
- D. $a = -\frac{4}{3}, a = -2$

27. Assuming the variable represents a non-negative number, simplify completely:

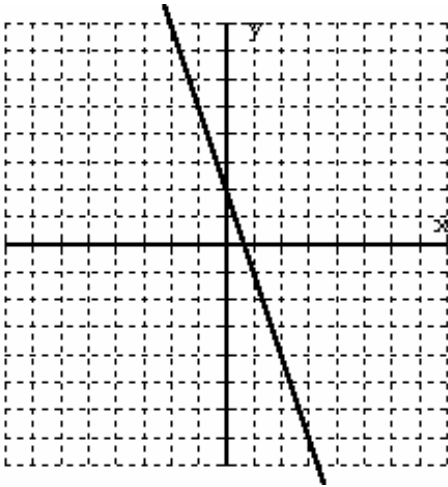
$$\sqrt{18x^3}$$

- A. $3x \sqrt{2x}$
- B. $6x \sqrt{3x^2}$
- C. $9x \sqrt{2x}$
- D. $3 \sqrt{6x^3}$

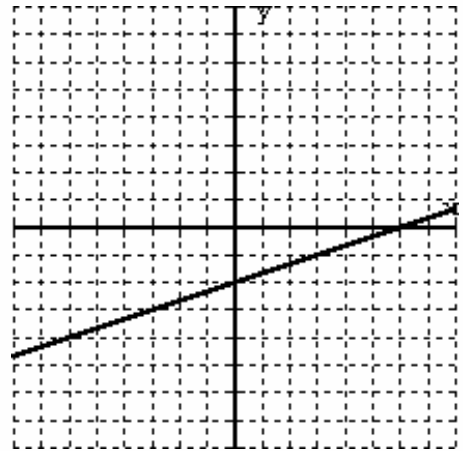
28. Find the graph that best matches the given linear equation:

$$y = 3x + 2$$

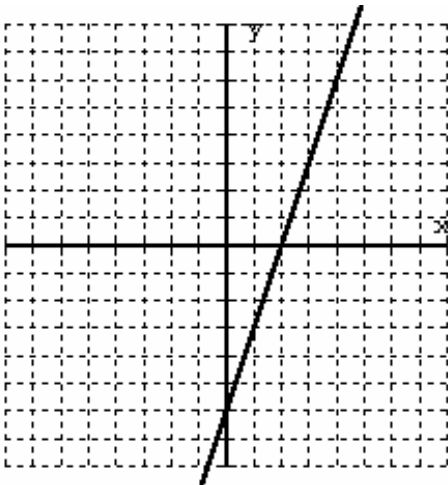
A.



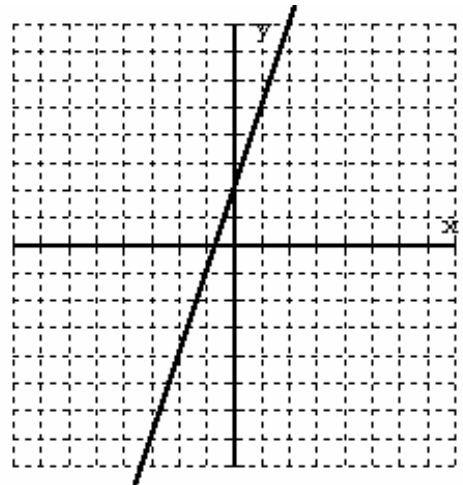
C.



B.



D.



29. Simplify:

$$\sqrt{3}(\sqrt{3} + \sqrt{6})$$

A. $6\sqrt{2}$

B. 9

B. $3 + 3\sqrt{2}$

C. 21

30. Find the x-intercept for:

$$2x - 3y = 6$$

- A. (0, 3)
- B. (0, -2)
- C. (3, 0)
- D. (3, 2)