Kyote Practice Problems 4

1. Multiply. \((5x - 3y)^2\)
   - A) \(5x^2 - 3y^2\)
   - B) \(25x^2 + 9y^2\)
   - C) \(25x^2 - 9y^2\)
   - D) \(25x^2 - 15xy + 9y^2\)
   - E) \(25x^2 - 30xy + 9y^2\)

2. Simplify, assuming \(x\) is a positive number. \(\sqrt{x^{18} + x^{10}}\)
   - A) \(x^{12} + x^8\)
   - B) \(x^8\sqrt{x^8 + 1}\)
   - C) \(x^{16} + x^8\)
   - D) \(x^9 + x^5\)
   - E) \(x^5\sqrt{x^8 + 1}\)

3. Multiply. \((x^2 - y^2)(x^6 + y^6)\)
   - A) \(x^{12} - y^{12}\)
   - B) \(x^8 - y^8\)
   - C) \(x^8 + x^6y^2 - x^2y^6 - y^8\)
   - D) \(x^{12} + x^2y^6 - x^6y^2 - y^{12}\)
   - E) \(x^8 + x^2y^6 - x^6y^2 - y^8\)

4. Add. \(\frac{3}{x} + \frac{5x + 3}{x(x + 1)}\)
   - A) \(\frac{8x + 3}{x(x + 1)}\)
   - B) \(\frac{8x + 3}{x^2(x + 1)}\)
   - C) \(\frac{5x + 6}{x(x + 1)}\)
   - D) \(\frac{8x + 6}{x(x + 1)}\)
   - E) \(\frac{8x + 6}{x^2(x + 1)}\)

5. Solve \(54 - 9x = 2\) for \(x\).
   - A) 56
   - B) 52
   - C) -43
   - D) \(\frac{52}{9}\)
   - E) \(\frac{56}{9}\)

6. The solutions of \(2x^2 + 9x - 5 = 0\) are
   - A) \(-\frac{1}{2}\) and -5
   - B) \(\frac{1}{2}\) and 5
   - C) \(-\frac{1}{2}\) and 5
   - D) \(\frac{1}{2}\) and -5
   - E) -5 only
7. Simplify. \( \frac{42}{6-42} \)

- A) \( \frac{-7}{6} \)
- B) \( \frac{7}{6} \)
- C) 6
- D) 8
- E) \( 1 \)

8. Simplify. \( 8 - 2(3^3) \)

- A) 8
- B) -208
- C) 162
- D) -10
- E) -46

9. Combine like terms and simplify. \( (6x^2 - 6x + 4) - (x^2 - 5x - 9) \)

- A) \( 5x^2 - x + 13 \)
- B) \( 5x^2 - 11x + 13 \)
- C) \( 5x^2 - x - 5 \)
- D) \( 6x^2 - x + 13 \)
- E) \( 6x^2 - 11x - 5 \)

10. Which of the following inequalities has the solution set corresponding to bold portion of the number line below?

- A) \( 5x \geq 8 \)
- B) \(-5x \leq 8 \)
- C) \( 5x \leq -8 \)
- D) \(-5x \geq -8 \)
- E) \(-5x \leq -8 \)

11. If \( L = \frac{4}{9} F + 8 \) is solved for \( F \), then \( F =? \)

- A) \( \frac{4}{9} L + 8 \)
- B) \( \frac{9}{4} L - 8 \)
- C) \( \frac{4}{9} L + \frac{-32}{9} \)
- D) \( \frac{9}{4} L - 18 \)
- E) \( \frac{9}{4} L + 18 \)

12. An eastbound car is going 4 miles per hour faster than a westbound car. The cars are 216 miles apart 2 hours after passing each other on a highway. What is the speed, in miles per hour, of the eastbound car?

- A) 55
- B) 54
- C) 52
- D) 56
- E) 53
13. What is the price, in dollars, of an Iphone that has been marked down 19 percent from its original price of 440 dollars?

- A) 347.60
- B) 343.20
- C) 352.00
- D) 360.80
- E) 356.40

14. The graphs of the lines $y = 8$ and $2x - 2y = 2$ intersect in a point. What the $x$-coordinate of that point?

- A) 8
- B) -8
- C) 9
- D) -9
- E) 2

15. Find the value of $(x - y)^2$ when $x = 9$ and $y = -8$.

- A) 1
- B) 145
- C) 289
- D) 34
- E) 17

16. The point $(2, 1)$ is on a line with slope 4. Which of the following is another point on that line?

- A) (4, 5)
- B) (3, 3)
- C) (3, 5)
- D) (4, 7)
- E) (5, 11)

17. A rectangle has length 32 inches and its perimeter is 6 times its width. What is its width in inches?

- A) 96
- B) 32
- C) 8
- D) 16
- E) 24

18. Find the value of $\frac{x - y}{x}$ when $x = -6$ and $y = -3$.

- A) $\frac{3}{2}$
- B) -3
- C) $\frac{-1}{2}$
- D) $\frac{1}{2}$
- E) 3
19. If a man walks at the rate of 2 feet per second, how many minutes will it take him to walk 720 feet?
   ☐ A) 3  ☐ B) 360  ☐ C) 6  ☐ D) 180  ☐ E) 12

20. One factor of \(x^2 - 9x + 18\) is
   ☐ A) \(x - 9\)  ☐ B) \(x - 6\)  ☐ C) \(x + 2\)  ☐ D) \(x - 2\)  ☐ E) \(x + 3\)

21. Which fraction is the largest?
   ☐ A) \(\frac{1}{2}\)  ☐ B) \(\frac{13}{30}\)  ☐ C) \(\frac{8}{15}\)  ☐ D) \(\frac{7}{15}\)  ☐ E) \(\frac{17}{30}\)

22. Simplify. \(\frac{x^2 - 1}{x^2 - 2x - 3}\)
   ☐ A) \(\frac{x + 1}{x + 3}\)  ☐ B) \(\frac{x - 1}{x - 3}\)  ☐ C) \(\frac{x + 1}{x - 3}\)  ☐ D) \(\frac{x - 1}{x - 3}\)  ☐ E) \(\frac{1}{2x + 3}\)

23. What is the distance between the points (3, 4) and (3, -7)?
   ☐ A) 4  ☐ B) -3  ☐ C) 11  ☐ D) 14  ☐ E) 7

24. Add. \(\frac{1}{4} + \frac{1}{5}\)
   ☐ A) \(\frac{1}{20}\)  ☐ B) \(\frac{2}{9}\)  ☐ C) \(\frac{9}{20}\)  ☐ D) \(\frac{1}{9}\)  ☐ E) \(\frac{1}{10}\)
25. Simplify. $5(1 - 6x) - 4(1 - x)$
   - A) $9 - 34x$
   - B) $1 - 34x$
   - C) $9 - 7x$
   - D) $1 - 26x$
   - E) $1 - 5x$

26. Solve $-0.01x + 630.0 = 600$ for $x$.
   - A) $-123000$
   - B) $-300$
   - C) $123000$
   - D) $300$
   - E) $30$

27. The number 20 is 2 percent of what number?
   - A) 10
   - B) 1000
   - C) 40
   - D) $\frac{2}{5}$
   - E) 100

28. The graph of the line with equation $y = 3x + 8$ crosses the $x$-axis when $x =$?
   - A) $-\frac{8}{3}$
   - B) $\frac{-3}{8}$
   - C) $\frac{8}{3}$
   - D) 8
   - E) 0

29. Simplify. $\frac{(-8x^3)^2}{x^3}$
   - A) $64x^3$
   - B) $-8x^2$
   - C) $-64$
   - D) $8x^3$
   - E) $8x^2$

30. What is the area of a square, in square feet, whose perimeter is 20 feet?
   - A) 5
   - B) 400
   - C) 50
   - D) 100
   - E) 25
Key: Kyote Practice 4

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

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