

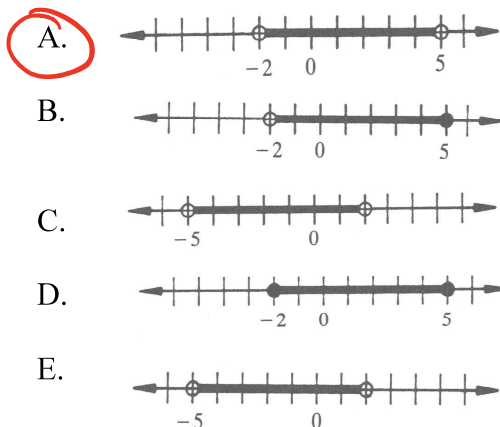
Practice Exercise 7

1. Solve for x : $2 + 3(5 - x) < 8$
 A. $x < 3$
 B. $x > 3$
 C. $x > -9$
 D. $x < -3$
 E. $x > -3$

2. Which of the following inequalities is NOT true when r , s , and t are real numbers?
 A. If $r < 0$, then $\frac{1}{r} < 0$. **T**
 B. If $r > s$, then $r + t > s + t$. **T**
 C. If $r > s$ and $s > t$, then $r > t$. **T**
 D. If $r < 0$, then $r^2 < 0$. **F**
 E. If $r > 0$, then $-r < 0$. **T**

3. Solve for x : $|3 - 2x| = 5$
 A. $\{-1, -4\}$
 B. $\{-1, 4\}$
 C. $\{1, 1\}$
 D. $\{1, -1\}$
 E. None of the above

4. The open sentence $|2x - 3| < 7$ is equivalent to which of the following graphs?



5. Simplify $-7x^4 \cdot 4x^2$.
 A. $11x^6$
 B. $-11x^8$
 C. $28x^8$
 D. $-28x^6$
 E. $-3x^6$

6. Simplify $\frac{27a^7b^{64}}{4ab^2}$. **$= 9ab^4$**
 A. $9ab^3$
 B. $9a^3b^8$
 C. $9ab^4$
 D. $9a^2b^{12}$
 E. $40ab^8$

7. Simplify $(2a^3)^3$. **$2 \cdot a^3 \cdot 2 \cdot a^3 \cdot 2 \cdot a^3$**
 A. $2a^6$
 B. $2a^9$
 C. $6a^6$
 D. $6a^9$
 E. $8a^9$

8. The expression $8^{-\frac{4}{3}}$ equals:
 A. $-\frac{1}{16}$
 B. $\frac{1}{16}$
 C. -8
 D. 16
 E. 16

9. The expression $\frac{1}{x^4} + \frac{2}{x^2y^2} + \frac{1}{y^4}$ is equivalent to:

- A. $\frac{1}{x^2} + \frac{1}{y^2}$ **Perfect² Tri**
 B. $\left(\frac{1}{x} + \frac{1}{y}\right)^2$ **$\left(\frac{1}{x^2} + \frac{1}{y^2}\right)^2$**
 C. $\frac{1}{x^2} + \frac{\sqrt{2}}{xy} + \frac{1}{y^2}$
 D. $(x^2 + y^2)^2$
 E. None of the above

$2x - 3 < 7$
 $2x < 10$
 $x < 5$
AND

$2x - 3 > -7$
 $2x > -4$
 $x > -2$

10. Find the y -intercept of the line with the equation $2x + y = 5$.

- A. -5
 - B. -2
 - C. $-\frac{1}{2}$
 - D. 0
 - E. 5
- $y = -2x + 5$

11. The slope of a line $\frac{1}{2}y = x + 4$ is:

- A. -1
 - B. $\frac{1}{2}$
 - C. 1
 - D. 2
 - E. 4
- $y = 2x + 8$

12. What is the slope of a line parallel to the line whose equation is $y = -\frac{1}{2}x + 3$?

- A. -2
- B. $-\frac{1}{2}$
- C. $\frac{1}{2}$
- D. 2
- E. 3

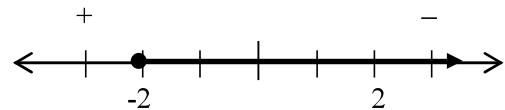
13. What is the slope of a line perpendicular to the line whose equation is $3x - 2y = 0$?

- A. $-\frac{3}{2}$
 - B. $-\frac{2}{3}$
 - C. $\frac{2}{3}$
 - D. $\frac{3}{2}$
 - E. No slope
- $-2y = -3x$
 $y = \frac{3}{2}x$
 $\perp m = -\frac{2}{3}$

14. $b^{-2} =$

- A. $-b^2$
- B. $\frac{1}{b^2}$
- C. $-2b$
- D. $\frac{1}{b^{-2}}$
- E. $\frac{1}{-b^2}$

15. Which set best describes the graph below?



- A. $x < -2$
- B. $x > -2$
- C. $x \leq -2$
- D. $-2 < x < 2$
- E. $x \geq -2$