

Solve the equation.

1. $\frac{2}{5}x - \frac{1}{3}x = 3$

2. $12(x - 48) = 24$

3. $\frac{3x-6}{4} + \frac{5x+9}{3} = -2$

Simplify the expression. All exponents must be positive.

4. $\left(\frac{3}{xy^2}\right)^{-2}$

5. $\left(\frac{30a^7b^7}{ab^4}\right)\left(\frac{2b^2}{6a^3b^9}\right)$

6. $\frac{2ab^3c^{-3} \cdot 2a^3b^{-2}c^4}{(a^{-4}c^4)^{-1}}$

Use interval notation to describe the interval of real numbers. Then describe using the words *open, closed, half-open, bounded, unbounded*.

7. x is negative

8. $-5 \leq x < -1$

9a. Show the graph of #7.

9b. Show the graph of #8.

Solve the inequality. Express in interval notation. Then graph it.

10. $-\frac{7}{2} < \frac{x-1}{3} \leq \frac{4}{5}$

11. $8 \geq \frac{4x+2}{3} \geq -4$