

Simplify

$$\left(\frac{-2x}{1} \frac{y^3}{1} s \right)^{-3}$$

$$\left(\frac{-2y^3}{x^3} \right)$$

-3

$$\left(\frac{x^3}{-2ys} \right)^3$$

$$\frac{-x^9}{8y^3s^3}$$

$$\left(\begin{array}{cc|cc} 2x & -1 & y & -3 \\ 6x & y & & -2 \end{array} \right)^{-2}$$

$$\left(\begin{array}{c|c} 1 & y^2 \\ \hline 3xx & y^3 \end{array} \right)^{-2}$$

$$\left(\begin{array}{c} 1 \\ \hline 3x^2y \end{array} \right)^{-2}$$

$$\left(\begin{array}{c} 2 \\ \hline 3xy \end{array} \right)^2$$

$$9x^4y^2$$

9.3 Solving linear equation

Solve equations	< >
1. linear	1. linear

highest exponent is 1
linear

1 variable
 1-D

$$3x + 2 = 5$$

-2 -2

$$\frac{3x}{3} = \frac{3}{3}$$

$x = 1$ {1}

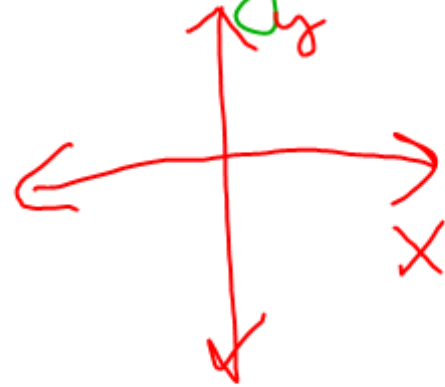


3 ways to look at math

1. Numerically
2. graphically
3. Algebraically

2 variables
 2-D

$$3x' - 2y' = 5$$



$$\frac{3}{1} \left(\frac{3X}{2} \right) - \frac{6}{1} \left(\frac{5}{1} \right) = \frac{1}{6}$$

Solve

$$\text{LCD} = 6$$

$$9X - 30 = 1$$

+30 +30

$$\frac{9X}{9} = \frac{31}{9}$$

$$X = \frac{31}{9}$$

$$\frac{3}{3} \frac{1}{2} + \frac{2}{2} \frac{1}{3}$$

$$\frac{3}{6} + \frac{2}{6}$$

$$\frac{5}{6}$$

$$\frac{2}{1} \left(\frac{X-2}{3} \right) + \frac{6}{1} = \frac{3}{1} \left(\frac{2X+1}{2} \right)$$

Solve

$$2(X-2) + 36 = 3(2X+1)$$

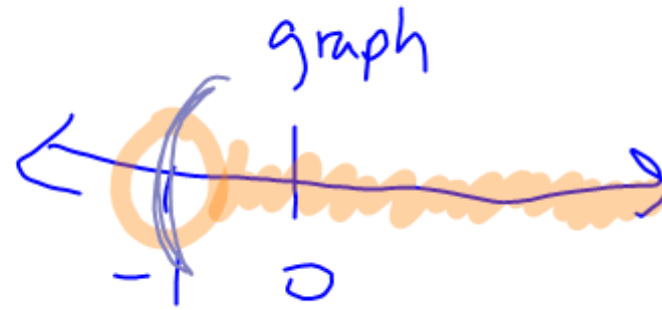
$$2X - 4 + 36 = 6X + 3$$

$$\begin{array}{r} 2X + 32 \\ -6X \\ \hline -4X + 32 \end{array} = \begin{array}{r} 6X + 3 \\ -6X \\ \hline -29 \end{array}$$

$$X = \frac{29}{4}$$

$$\frac{3 - 2x < 5}{-3 \quad -3}$$

5 < 5



$$\frac{-2x}{-2} < \frac{2}{-2}$$

$$\{x \mid x > -1\}$$

Algebraic = Set builder

Numerically
Interval notation

$$(-1, \infty)$$

is [included (not included

$$\{x \mid x \geq 3\}$$



$$[3, \infty)$$

$$-2 < x$$

$$x > -2$$



Solve

$$\begin{array}{r}
 2x + 3 = 2x + 1 \\
 \underline{-2x \quad -2x} \\
 \text{F } 3 \neq 1
 \end{array}$$

 \emptyset \mathbb{R} ~~or~~

or

$$\begin{array}{r}
 x - 5 = x - 5 \\
 \underline{-x \quad -x} \\
 -5 = -5 \\
 0 = 0
 \end{array}$$