

# 3.2 Adding and Subtracting Linear Expressions

EQ: How do you add or subtract linear expressions?

Linear Expressions: an expression that creates a straight line on a graph.

Examples:

$$-4x$$

$$3+2x$$

$$\frac{1}{6}x-5$$

Non-Examples:

$$1x^2$$

$$-7x^3+x$$

$$x^5+11$$

exponents

\* Addition

Example 1:  $(-4y+3) + 1(11y-5)$

$$\boxed{-4y+3} + \boxed{11y-5}$$

$$-4y+11y \quad 3-5$$

$$\boxed{7y-2}$$

Example 2:  $2(-7.5x+3) + (5x-2)$

$$\boxed{-15x+6} + \boxed{5x-2}$$

$$-15x+5x \quad 6-2$$

$$\boxed{-10x+4}$$

Example 3:  $(5x+6) - 1(-x+6)$

\* Distribute the negative (subtraction sign)

$$\boxed{5x+6} + \boxed{x-6}$$

$$5x+x \quad 6-6$$

$$5x+1x$$

$$\boxed{6x}$$

\* When you distribute the negative you take the opposite sign of each term

Example 4:  $(7y+5) - 2(4y-3)$

\* Distribute the -2

$$\boxed{7y+5} + \boxed{-8y+6}$$

$$7y-8y \quad 5+6$$

$$-y+11$$