Unit 2: Solving Equations
Lesson 2.2: Combining Like Terms

Get Ready:

Solve these equations:

1) What is different about how you solved these equations?
2) What are the different parts to the first equation?
3) How can you check if your solution is correct?
4) What happens if you check an incorrect solution?

5) How do you solve an equation that has more than one variable term? For example, 5x + 4 = x - 8
Like Terms

Terms that contain the same variable which is raised to the same exponent:

\[ 15x - 6x \]

\[ 5p - 2p \]
\[ \frac{p}{2} = \frac{1}{2} p \]

\[ 7ab - ba \]
\[ = 67a \]
\[ = a7b \]
\[ = ba7 \]

\[ -8x^2 - x^2 \]

-7 \( \frac{3}{4} \)

**Constants**

\#s that stay the same
Not multiplied w/ variables.
Mathematical Statements

2a + 3 - a^2 + 5a - 2

You can simplify an Algebraic Expression

5x - 2 + 2x = 12

You can solve Algebraic Equation

Isolating the variable means getting the coefficient to be 1
Simplify the expression

$$15j - 2 + 2j^3 - 4 + 5j - j^2 + \boxed{3 - 5j^3}$$

Simplification:

$$= -5j^3 + 2j^3 - j^2 + 15j + 5j - 3$$

$$= -3j^3 - j^2 + 20j - 3$$

$$= 3 + -5j^3$$
Solve the equations

\[5a - 8 - 7a + 2 = 10\]

\[-2a - 6 + 6 = 10 + 6\]

\[-2a = 16\]

\[a = -8\]

\[3x + 2 = 12 + 5x\]

\[-3x\]

\[0x + 2 = 12 + 2x\]

\[-12 = -12\]

\[-10 = 2x\]

\[x = -5\]