3.5: Solving Polynomial Equations

Warm-Up/Recall:

$2(4-5p)$

$-\frac{1}{2}(4x^2+6x-8)$

Skill 6: Substitution and Polynomials

When given an equation with *two variables*, use substitution before solving for the unknown variable.

Example	**Steps**
$\frac{y}{10} + 3x = 2$ Where x = 4	**1)** Substitute the value of the variable. **2)** Use inverse operations to isolate the variable.

Examples

1. Find the value of the unknown variable, given the value of y

a) $y = 4x - 3, \quad y = 13$

b) $2x - 5y = 3, \quad y = 5$

Skill 7: Distribution and Polynomials

We must remove all brackets before we can isolate our variables.

Solve for the variable in the following:

$-4(x+5) = 2(x-4)$

1) Remove all brackets using DISTRIBUTION.

2) Simplify both sides of the equation.

3) Collect all your variables on the left hand side and all the numbers on the right hand side of the equation.

4) Now solve for the variable by dividing by the number in front of the variable.

5) Divide to get the variable by itself.

6) Your answer should contain a solo variable.

Examples:

1. $-5(3+p)=35$

2. $4(q-2)=12$

3. $3(n+1)=(n-3)$

4. $-(6+4z)=(z+5)$

5. $-(y+3z)=(2z+y)$ *where* $y=5$

6. $2(x+y-3)=y+3x$ *where* $y=2x$

Homework: p. 313-315 #[3, 6, 7] (odd), 9, 10, {15, 16 challenge}