

3.2: Inverse Operations - Multiplying

Expression vs. Equation

An **expression** is an algebraic statement **without** an = sign.

An **equation** is an algebraic statement **with** an = sign (both sides are equal to each other).

Skill 2: Inverse Operations –Multiplying

Example

$$3x = 9$$

Steps

1) Solve for the variable by dividing by the number in front of the variable.

2) Divide to get the variable by itself.

a) $25x = 50$

b) $15x = 75$

c) $-2x = 10$

d) $-3x = -60$

Skill 3: Solving First Degree Equations with Non-Fractional Coefficients

In the following equations, do the INVERSE or OPPOSITE operation to isolate the variable. Work from the OUTSIDE in TOWARDS the variable.

Solve for the variable in the following:

$$3x + 18 - 10 = 17$$

1) Simplify both sides of the equation.

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

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

4) Divide to get the variable by itself.

5) Your answer should contain a solo variable.

Examples

1. Find the value of the variable:

a) $16y + 2 = 34$

b) $-80 = 2x - 6$

$$c) 5w + 3 = -22$$

$$a) 8 = 3p - 1$$

$$e) 0.5 = 3.5y - 6.5$$

$$f) 2(4 - 5p) = -6$$

Homework: p. 294 #2, 4, 6, p 296 #14 (even), p. 297 #[18, 19] (odd)