4-1D Solving One-Step Equations by Adding & Subtracting

Algebraic Expression – includes numbers, variables, and operations.
Algebraic Equation – includes numbers, variables, operations, AND an equal sign.
Solution – the value of the variable that makes the equation true.

To Solve Equations:
1. Use inverse operations to isolate the variable.

2. Whatever you do to one side of the equation, you must do to the other side. (Properties of Equality)
3. Always check & graph your answer!!!

Notes: *plus/minus signs also indicate whether a number or variable is positive/negative!!!
*add, subtract, and divide below the problem (use fraction bar instead of division symbol); multiply to the side of the problem

Graphing on a number line:
1. Draw, label number line using arrows and five values – all values are integers with solution placed in the middle.
2. Plot a filled in dot on the number line above the solution.

REMEMBER: Integer Rules
1. Add:
    a. Same signs → Add the numbers, keep the sign
    b. Different signs → Subtract (larger number - smaller number), keep sign of larger number
2. Subtract: Keep (1ˢᵗ number the same) → Change (subtraction to addition) → Change (2ⁿᵈ number); follow addition rules

Ex. 1: Graph each solution on a number line.
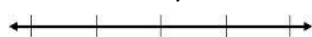**A.** $x = 2$ **B.** $x = -4$ **C.** $x = 1.2$ **D.** $x = -3.5$
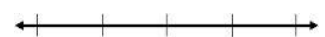
Ex. 2: Solve each equation and check your solution. Graph the solution on a number line.
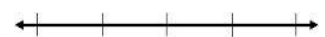**A.** $x + 5 = 15$ **B.** $6 + y = -4$
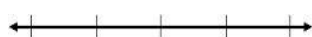
C. $-21 + a = 15$ **D.** $-13 = -24 + r$

E. $n - 9 = -4$ **F.** $3 = x - 52$

HW: 4-1D Worksheet