

The Multiplication/Division Principle of Equality

Just like we can add or subtract the same quantity from both sides, we can also multiply and divide both sides by the same nonzero quantity, and the equation will still be in balance.

**Ex 1.**

Solve and check: $3x - 4 = 11$

How to solve a linear equation in one variable:

1. _____ both sides.
2. _____ so that variable terms are on one side, and constants are on the other.
3. _____ by coefficient of variable term.

Ex 2.

Solve: $11n - 4(2n - 3) = 18 + 5(n + 2)$

Ex 3.

The surface area of a box is 52 square feet. Suppose the length is 4 feet and the width is 2 feet. Find the height. (Recall: $SA = 2(lw + lh + wh)$)