
Common Algebra Mistakes

Example: Solving a Linear Equation

The Goal

Solve the following equation for k :

$$9k = 18 - 3k$$

The Mistake

Find the algebra mistake:

$$9k = 18 - 3k \implies 6k = 18 \implies k = 3$$

Need a hint? Look carefully at the red part of the algebra:

$$9k = 18 - 3k \implies 6k = 18 \implies k = 3$$

The Correction

$$9k = 18 - 3k \implies 12k = 18 \implies k = \frac{3}{2}$$

An Explanation

The mistake was that $3k$ was *subtracted* from the left side but *added* to the right side. Instead, $3k$ should have been *added* to *both* sides.