Pre-Algebra 2.3, 2.4, 2.5

Showing how to solve multi-step problems using the

Copy
Eliminate a Constant
Simplify
Isolate a Variable and
Solve procedure

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Constant--a number on the same side as the variable and connected to the variable only by a + or a -. We eliminate the constant by adding the opposite of what is there.

Isolate the Variable--we need to get rid of the coefficient of the variable (the number directly attached to the variable by multiplication or division.

We can do this one of **two ways.**

- If the coefficient is a **whole number**, we divide both sides by that whole number.
- If the coefficient is a fraction, we multiply both sides by the reciprocal (flip) of that fraction.

$4x - 3 = 5$ copy

Decide which number is the constant. In this case it is -3. We get rid of it by adding the opposite to both sides.

$4x - 3 = 5$ eliminate constant

$+3 \quad +3$ add a pos. 3

$4x = 8$ simplify

We need to isolate the variable by getting rid of its coefficient. Since the coefficient is a whole number **4, we need to divide both sides by the 4.**

$\frac{4x}{4} = \frac{8}{4}$ isolate variable

divide by the coefficient

$x = 2$ solve

$x + 14 = 72$

$58 = m - 41$

$x - 47 = 101$

$312 = x + 152$

$6m = 84$

$\frac{2}{3}m = 8$

$48 = 6x$

$\frac{h}{6} = 24$