



Solving Equations

Name _____

Do as instructed in each boxed step.

Start here:

1. Read the equation. If the equation involves subtraction, rewrite it using a related addition expression instead. If not, go to step 2.

$$-2x - 5 = 1$$

2. The equation is made of two equivalent expressions. Look for the expression that has the variable in it. Tell what operation(s) have been done to the variable expression. (+, -, x, ÷)

$-2x + -5 = 1$ The two operations are _____, and _____

3. Begin to isolate the variable by working backwards. First undo addition by adding the opposite number. *Remember*, to keep balance you must do this for both the left and the right expression.

$$-2x + -5 = 1$$

$$\underline{\quad} \quad \underline{\quad}$$
$$\underline{\quad} = \underline{\quad}$$

4. Next, use inverse operations to isolate the variable undoing any multiplication or division. *Remember*, to keep balance you must do this for both the left and the right expression.

$$-2x = 6$$

$$\underline{\quad} \quad \underline{\quad}$$
$$x = \underline{\quad}$$

When the variable is completely isolated, you have solved the equation. Substitute the value of the variable in the original equation. Check to make sure the two original expressions are equivalent.

$$-2(\underline{\quad}) + -5 = 1$$
$$\underline{\quad} = \underline{\quad}$$