Algebra Bellwork - October 13, 2011

Solve each equation

$1 + \frac{a}{5} = -1$ $\qquad$ $-b + 6 = -17$

Check your answers:

2) $n = 6$

4) $n = -34$

6) $x = 27$

8) $c = -2$

10) $a = 112$

12) $n = \frac{9}{2}$

14) $x = 120$

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Solve each equation

$1 + \frac{a}{5} = -1$

$-1 \quad -1$

$5 \cdot \frac{a}{5} = -2 \cdot 5$

$a = -10$

$-b + 6 = -17$

$-6 \quad -6$

$-b = -23$

$-1 \quad -1$

$b = 23$

An algebraic express is a mathematical phrase that can include numbers, variables, and operation symbols. An equation appears similar, but uses an equal sign to show equality between two expressions. Simplifying an expression means taking the numbers, variables, and operation symbols in a mathematical expression and reducing them to their shortest form. This is usually done by combining numbers and terms with the same variables. In the above example, the expression x-5+6 can be shortened to x+1 by combining the numbers -5 and 6. There is no equal sign, and we are not trying to find the value of the variable. On the other hand, solving an equation involves finding the value of a variable, or variables, that make the equation's two sides equal each other. In the example x-5=6, we would perform inverse operations, adding 5 to both sides to solve for x. In this example, x would be 11.

Simplifying expressions should be taught first because solving equations often involves simplifying one or both sides of the equation before finding the value of the variable. You do not need to know how to solve equations to simplify expressions, but simplifying each side of an equation can make an equation easier to solve.