Solving Equations

Remember that an equation differs from an expression because an equation has an equal sign. Often times you need to solve for a variable when solving equations.

When solving equations, we use need to use inverse operations to isolate the variable. This concept is very important during this year. Inverse operations are opposites of each other.

Addition and Subtraction

Division and Multiplication

Proper work is showing how you are using inverse operations correctly to isolate the variable.

Remember to show proper work and follow integer rules!

x + 3 = -15

$-3 \quad -3$

$x = -18$

y - -17 = -20

$+17 \quad +17$

$y = -37$

$\frac{-5x}{-5} = \frac{-90}{-5}$

$x = 18$

a/2 = -3

$2 \cdot \frac{a}{2} = -3 \cdot 2$

$a = -6$

You Try:

1. $\frac{4r}{4} = \frac{-32}{4}$

$r = -8$

2. $w - 7 = -12$

$+7 \quad +7$

$w = -5$

3. $k + 13 = -45$

$-13 \quad -13$

$k = -32$

$-45 + +13$

4. $n - 6 = -2$

$+6 \quad +6$

$n = 4$

5. $7 = a - 5$

$+5 \quad +5$

$12 = a$

6. $\frac{d}{6} = -3$

$6 \cdot \frac{d}{6} = -3 \cdot 6$

$d = -18$

7. $\frac{-6g}{-6} = \frac{72}{-6}$

$g = -12$

8. $4 = f/-4$

$-4 \cdot 4 = \frac{f}{-4} \cdot -4$

$-16 = f$

9. $q + 2 = -15$

$-2 \quad -2$

$q = -13$

$-15 + +2$

10. $y - 8 = -34$

$+8 \quad +8$

$y = -26$

11. $-15 = h/5$

$5 \cdot -15 = \frac{h}{5} \cdot 5$

$-75 = h$

12. $\frac{15c}{15} = \frac{-45}{15}$

$c = -3$

Tim solved the equation $x + -4 = -20$ as follows. What error did he make and what is the correct solution?

$x + -4 = -20$

$+ -4 \quad + -4$

$x + 0 = -24$

$x = -24$

$x + 4 = -20$

$-4 \quad -4$

$x = -16$

$-20 + +4$

HW: WB p. 73 evens and #23