Multi-Step Equations & Simple Word Problems

Vocabulary:

Equation - shows equality between two expressions

Solving - determine the value that makes the equation true.

Solving:

Ex #1 $y - 25 = 13.4$

$+25 \quad +25$

$\boxed{y = 38.4}$

Ex #2 $\frac{8m}{8} = \frac{24}{8}$

$\boxed{m = 3}$

Ex #3 $7 \cdot (30) = \left(-\frac{4}{7}t\right) 7$

$\frac{210}{-4} = \frac{-4t}{-4}$

$\boxed{t = -52.5}$

Ex #4 $4p + 6 = 34$

$-6 \quad -6$

$\frac{4p}{4} = \frac{28}{4}$

$\boxed{p = 7}$

Ex #5 $\frac{4}{5}r - 9 = 27$

$+9 \quad +9$

$5 \cdot \left(\frac{4}{5}r\right) = (36) \cdot 5$

$\frac{4r}{4} = \frac{180}{4}$

$\boxed{r = 45}$

Ex #6 $4(2a - 5) - a = 1$

$8a - 20 - a = 1$

$7a - 20 = 1$

$+20 \quad +20$

$\frac{7a}{7} = \frac{21}{7}$

$\boxed{a = 3}$

Ex #7 $5\left(\frac{m}{6} - 2\right) = 2m + 4$

$\frac{5m}{6} - 10 = 2m + 4$

$+10 \quad +10$

$\frac{5m}{6} = 2m + 14$

$-2m \quad -2m$

$\frac{5m}{6} - \frac{2m}{1} = 14$

$\frac{5m}{6} - \frac{12m}{6} = 14$

$6\left(\frac{-7m}{6}\right) = (14)6$

$\frac{-7m}{-7} = \frac{84}{-7}$

$\boxed{m = -12}$

$\frac{5}{6}m - \frac{5m}{6}$

Word Problems

Ex #8 Danny bought 5 pounds of peanuts for $2.50 per pound. He also bought cashews for $6.00 per pound. He spent a total of $30.50.

a) Write an equation to find c, the pounds of cashews Danny bought.

$$30.50 = 5(2.50) + c(6.00)$$

b) Solve and interpret your solution.

$$30.50 = 12.50 + 6.00c$$
$$-12.50 \quad -12.50$$

$$18 = 6c$$

$$3 = c$$

Danny bought 3 pounds of cashews.

Ex #9 John drove 378 miles. For 4 hrs he drove 45 mph & the rest at 55 mph.

a) Write an equation to find h, the number of hours John drove at 55 mph.

b) Solve & interpret your solution.