Name:		Date:	
Topic/Objective: Solve Multi-Step Equations		Class/Period:	

Questions/Main Ideas:	Notes:
	Notes: **Rules for Solving Multi – Step Equations** R1: Make sure the equation has been simplified on both sides R2: Use the Inverse operations to isolate the variable
Examples:	Solve the equation by combining like terms $$8x - 3x - 10 = 20$$ $$5x - 10 = 20$$ $$ +10 \quad +10$$ $$\frac{5x}{5} = \frac{30}{5}$$ $$x = 6$$ Solve the equations using the Distributive Property. $$7x + 2(x + 6) = 39$$ $$7x + 2x + 12 = 39$$ $$9x + 12 = 39$$ $$ -12 \quad -12$$ $$\frac{9x}{9} = \frac{27}{9} \qquad x = 3$$

Which equation represents step 2 in the solution process?

1. $5x - 4(x - 3) = 17$

2. ? $5x - 4x + 12 = 17$

3. $x + 12 = 17$

4. $x = 5$

a.) $5x - 4x - 12 = 17$ b) $5x - 4x - 3 = 17$

c.) $5x - 4x + 3 = 17$ d.) $5x - 4x + 12 = 17$

Try on your own…..

$$9d - 2d + 4 = 32$$
$$7d + 4 = 32$$
$$-4 \quad -4$$
$$\overline{}$$
$$\frac{7d}{7} = \frac{28}{7}$$
$$\boxed{d = 4}$$

$$2w + 3(w + 4) = 27$$
$$2w + 3w + 12 = 27$$
$$5w + 12 = 27$$
$$-12 \quad -12$$
$$\overline{}$$
$$\frac{5w}{5} = \frac{15}{5}$$
$$\boxed{w = 3}$$

$$-3 = 12y - 5(2y - 7)$$

$$-3 = 12y - 10y + 35$$

$$-3 = 2y + 35$$

$$\underline{-35 \qquad\quad -35}$$

$$\frac{-38}{2} = \frac{2y}{2}$$

$$-19 = y$$

Multiply by the reciprocal	

$$\frac{5}{2} \cdot \cancel{\frac{2}{5}}(3r+4) = 10 \cdot \frac{5}{2} \qquad \cancel{\frac{5}{2}} \cdot \cancel{\frac{-4}{5}}(4a-1) = 28 \cdot \frac{5}{-4}$$

$$3r + 4 = \frac{50}{2} \qquad\qquad 4a - 1 = \frac{140}{-4}$$

$$3r + 4 = 25 \qquad\qquad 4a - 1 = -35$$

$$\underline{\quad -4 \quad -4\quad} \qquad\qquad \underline{\quad +1 \qquad +1\quad}$$

$$\frac{3r}{3} = \frac{21}{3} \qquad\qquad \frac{4a}{4} = \frac{-34}{4}$$

$$\boxed{r = 7} \qquad\qquad a = \frac{-34}{4} \approx -8.5$$