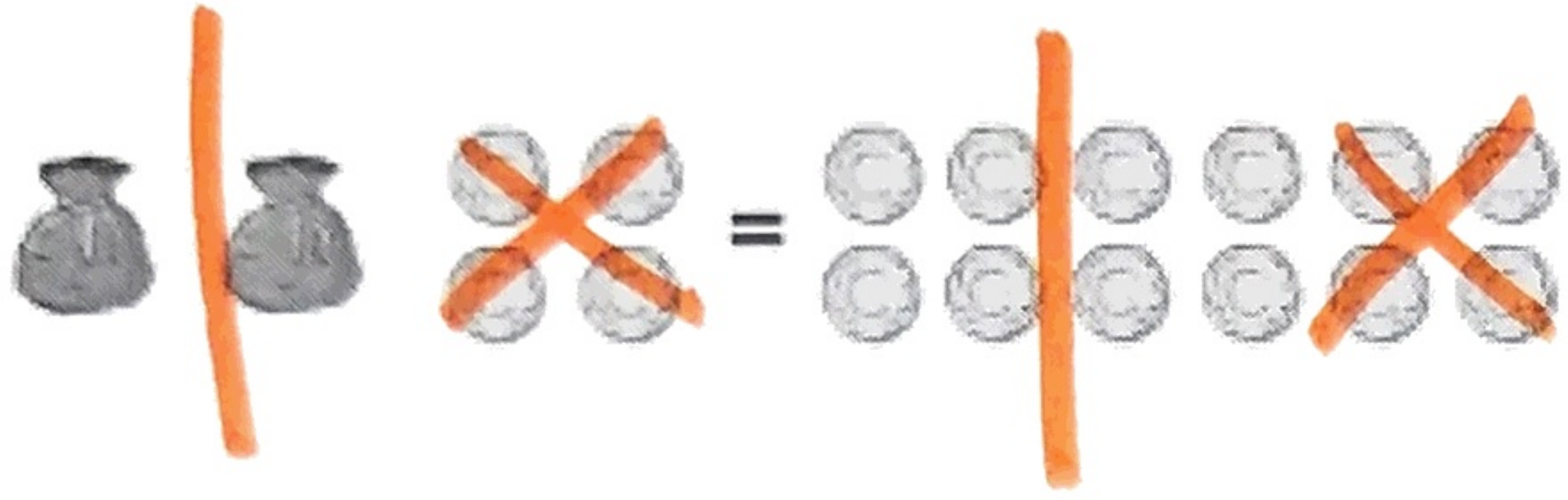Name: _____ Date: _____ Hour: _____

Unit 1 Day 7: Solving 2 Step Equations
Focus Question: In what order to I solve for a variable?

A. Solving 2 step equations with a picture. How many coins are in each pouch?

Picture Problem and Solution	**What it looks like algebraically**
4 coins in a money bag	C is # of coins in money bag $$2c - 4 = 12$$ $$-4 \quad -4$$ $$\frac{2c}{2} = \frac{8}{2}$$ $$\boxed{c = 4}$$
What did you eliminate first?	**the constant (# without letter)**
What did you eliminate 2nd?	**the coefficient**

1st we eliminate <u>constants</u> by **subtract** or **add**

2nd we eliminate <u>coefficients</u> by **dividing** or **multiply**

So the order is **constant (+ or -)** and then **coeff. (÷ or •)**
which is the reverse of the order of operations. **GEMDAS ← simplify**

solve → SA DMEG

B. Practice Together Problems: Solve each equation

1. $7 + 8n = 31$

$$-7 \qquad -7$$
$$\frac{8n}{8} = \frac{24}{8}$$
$$\boxed{n = 3}$$

2. $-5 = -6 + \frac{x}{4}$

$$+6 \quad +6$$
$$4 \cdot 1 = \frac{x}{4} \cdot 4$$
$$\boxed{4 = x}$$

3. $-6 = \frac{w}{2} - 10$

$$+10 \qquad +10$$
$$2 \cdot 4 = \frac{w}{2} \cdot 2$$
$$\boxed{8 = w}$$

C. Partner Practice (Rally Coach)

Partner A writes and explains (B coaches)	Partner B writes and explains (A coaches)
Solve $\quad -4 = \frac{x}{20} - 5$	Solve $\quad \frac{x}{3} + 4 = 8$
Solve $\quad -10 = -10 + 7x$ $+10 \quad +10$ $0 = 7x$ $\overline{7} \quad \overline{7}$ $0 = x$	Solve $\quad -9x - 13 = -103$
Solve $\quad 0 = 4 + \frac{x}{5}$	Solve $\quad -15 = -4x + 5$
Solve $\quad -6x + 10 = -104$	Solve $\quad 8 - \frac{x}{4} = 5$ $-8 \quad\quad -8$ $-4 \quad -\frac{x}{4} = -3 \quad \cdot -4$ $x = 12$