1-8   Solving Addition and Subtraction
         Equations

<u>Solve</u> - find the value of the variable to
make the equation true.

<u>Solutions</u> — the value that makes the variable
     true in the equation.

$$x + 4 = 6$$
$$\underline{-4 \quad -4}$$
$$x \quad = 2$$

Subtraction Property of Equality
subtract the same # from both sides
of the equal sign!

Balance Scale
Equal on both sides
$$\boxed{} = \boxed{}$$

fulcrum

$$x + \underset{-4}{4} = \underset{-4}{6}$$

$$x = 2$$

Do	Undo
+4	−4

$$x + 5 = 3$$
$$-5 \quad -5$$
$$x = -2$$

$$-2 + 5 = 3$$
$$\checkmark 3 = 3$$
$$\text{balances}$$

Do	Undo
+5	−5

$$a + \cancel{6} = 2$$
$$\underline{+6 \quad -6}$$
$$a = -4$$

$$\underline{\text{Do} \quad | \quad \text{Undo}}$$
$$+6 \quad | \quad -6$$

$$y + 3 = -8$$
$$-3 \quad -3$$
$$y = -11$$

$$\frac{D \mid u}{+3 \mid -3}$$

$$-\frac{5}{4} = n + \cancel{4}$$

$$1 = \textcircled{n} \quad \text{isolate the variable}$$

$$\frac{D}{+4} \Big| \frac{u}{-4}$$

Inverse Operations
            Undo

opposites

example: $+4$ $+2$ -3 $\times 6$
         -4 -2 $+3$ $\div 6$

Addition Prop of Equality
   add the same # to both sides

$$-6 = y - 7$$
$$+7 \qquad +7$$
$$\boxed{1 = y}$$

$$\frac{D \mid u}{-7 \mid +7}$$

$$x - 8 = -3$$
$$+8 \quad\quad +8$$
$$x = 5$$

$$\frac{D \mid u}{-8 \mid +8}$$

$$b - 4 = -10$$
$$+4 \quad +4$$
$$\boxed{b = -6}$$

$$7 = P - 12$$
$$+12 \qquad +12$$
$$19 = P$$

do | undo
$$-12 \ | \ +12$$

$$-18 = n + 25$$
$$\underline{-25} \qquad \underline{-25}$$
$$-43 = n$$

$$\underline{D \mid u}$$
$$+25 \mid -25$$

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  1-8
  even #s
Show the do | undo chart.
Show your work.

22.) $r - (-8) = 14$

simplify
the problem
first!

$r + 8 = 14$

$ -8 \quad -8$

$r = 6$

D	u
+ 8	− 8