HW due today!

Solve for x

$$\frac{x}{3} + \frac{x}{6} = 1$$

$$\frac{2x}{6} + \frac{x}{6} = \frac{3x}{6} = 1$$

$$\cancel{6} \cdot \frac{3x}{\cancel{6}} = 1 \cdot 6$$

$$3x = 6 \rightarrow x = 2$$

WARM UP

$$-2(x+3) - 3(x-5)$$

$$-2x - 6 \quad -3x + 15$$

$$\rightarrow -5x + 9$$

An equation is a statement about 2 objects

True or False

conditional truth

$$-2(x+3)-3(x-5) = 3$$

$$-5x+9 = 3$$

$$-5x = -6$$

$$x = 6/5$$

true only when $x = 6/5$

Q6

$$2x+3-4 = 3x-5-x$$

$2x - 1 = 2x - 5$

$-2x \qquad -2x$

$-1 = -5$

FALSE — Never true

Always True: $2 = 2$

Hint: $\longrightarrow 0 = 0$

you had always True statement.

3 statements:

True, sometimes, Always

True, True, FALSE

always

① $4(x + 2y) = 4x + 8y$ — T

$4x + 8y$

② $4(x+2y) = 4x - 8y$

$4x + 8y = 4x - 8y$

$-4x + 8y \qquad -4x + 8y$

$16y = 0 \rightarrow y = 0$

True when $y = 0$

③ $4(x+2y) = 0$

set $x, y = 0$

$4(0+0) = 0$ ✓

set $x = 0$, $y = 1$

$4(0+2) \neq 0$

$4x + 8y = 0$

$x = -2y$

$x + 2y = 0$

$y = 1$

$x = -2$ ✗

④ $x \neq 0$ and $x = -x$

Always FALSE.

$x + 3y(x - 1) = 4$

when $x = 3$

what must y be to make equality true?