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TEST REVIEW 2 | Review

PROBLEM 1:

Solve each equation

$$6 = -3(x + 2)$$

$$6 = -3x - 6$$
$$+6 \qquad\qquad +6$$

$$\frac{12}{-3} = \frac{-3x}{-3}$$

$$-4 = x$$

PROBLEM 2:

Solve each equation

$$12x - 6 = 12x + 1$$

$-12x \qquad -12x$

$$-6 = 1$$

No Solution

$$5 = 5$$

All real #'s

PROBLEM 3:

.07%

Write an <u>equation</u> for the word problem and solve it.

Joey paid $<u>82.50</u> for a pair of shoes including tax. If tax is <u>7%</u> how much were the shoes at sticker price (before tax)?

$$\text{Shoe} \quad + \quad \text{tax} \quad = \quad \$$$

$$X \quad + \quad .07X \quad = \quad 82.50$$

$$\frac{1.07x}{1.07} \quad = \quad \frac{82.50}{1.07}$$

$$X = 77.10$$

PROBLEM 4:

Write an equation for the word problem and solve it.

Joey is 3 years older than Maggie. Jimmy is three years younger than Maggie. Together their ages add up to 45. How old is Joey?

$$\text{Joey} + \text{Maggie} + \text{Jimmy} = 45$$
$$1m + 3 + 1m + 1m - 3 = 45$$
$$\frac{3m}{3} = \frac{45}{3}$$
$$m = 15$$

Joey
$$15 + 3 = 18$$

PROBLEM 5:

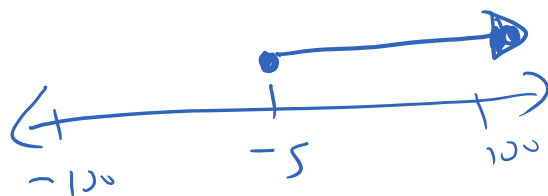**Solve each of the inequalities. Graph the solution for each on a number line.**

$-6x - 8 \leq 22$

$ +8 \quad +8$

$\dfrac{-6x}{-6} \leq \dfrac{30}{-6}$

$x \geq -5$

$>$
$\leq$ $\Big\}$ open circle
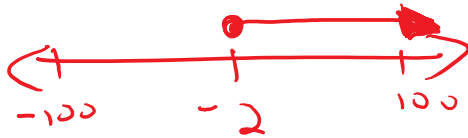
$\leq$
$\geq$ $\Big\}$ close circle

PROBLEM 6:

Solve each of the inequalities. Graph the solution for each on a number line.

$$-4 + 4x + 4 \geq -8$$

$$\frac{4x}{4} \geq \frac{-8}{4}$$

$$x \geq -2$$

PROBLEM 7: $<$ $>$ $\leq$ $\geq$

Write an equation that models each of the inequalities. Solve each.

Mary has $30 to spend at the consignment store. Tops cost $11 each and socks cost .50 cents a pair. If she buys one top, what is the most number of socks she could buy with her money? (Assume not tax)

$$11 + .50x \leq 30$$
$$-11 \qquad\qquad -11$$

$$\frac{.50x}{.50} \leq \frac{19}{.50}$$

$$x \leq 38$$

PROBLEM 8:

Write an equation that models each of the inequalities. Solve each.

Mr. Ellis has $500 in a bank account. He wants to have at least $50 left at the end of the summer. If he withdraws $25 a day to spend on his son for food, diapers, etc what is the most number of days he can go and still achieve his goal?

$$500 - 25d \leq 50$$
$$-500 \qquad\qquad -500$$
$$\frac{-25d}{-25} \leq \frac{-450}{-25}$$
$$d \geq 18$$

PROBLEM 9:

Solve each of the equations for the variable requested. Show all work along with a do/undo table.

$x - by = z$ Solve this equation for y.

$$x - by = z$$
$$-x \qquad\qquad -x$$

$$\frac{-by}{-b} = \frac{z - x}{-b}$$

$$\boxed{y = \frac{z - x}{-b}}$$

Do y	Undo y	
$\cdot -b$	$\div -b$	$\leftarrow 2^{nd}$ step
$+x$	$-x$	$\leftarrow 1^{st}$ step

PROBLEM 10:

Solve each of the equations for the variable requested. Show all work along with a do/undo table.

$P = mxr$ Solve this equation for x.
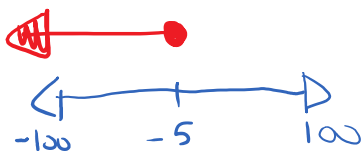
$$\frac{P}{mr} = \frac{mxr}{mr}$$

$$\boxed{\frac{P}{mr} = x}$$

Do x	Undo x
$\cdot mr$	$\div mr$

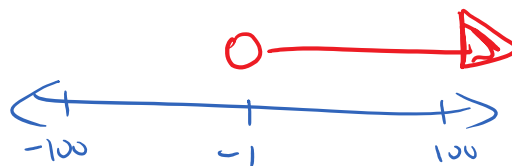# PROBLEM 11:

Graph the following inequalities on a number line.

$x \leq -5$ $x > -1$

$\leq$ } close circle

$\geq$ } open circle

$>$

$<$

PROBLEM 12:

Determine if the point is a solution to the given equation.

Is $(1, -2)$ a solution to $2x + 3y = 8$

$$x \quad y$$

$$2(1) + 3(-2) = 8$$

$$2 \quad - 6$$

$$-4 \quad \neq 8$$

$(1, -2)$ is Not a Solution

PROBLEM 13:

Determine if the point is a solution to the given equation.

Is $(-5,\ 8)$ a solution to $y = 13 + x$

$$x \quad y$$

$$y = 13 + x$$

$$8 = 13 - 5$$

$$8 = 8$$

$$(-5, 8) \text{ is a solution}$$

PROBLEM 14:

Complete the table

$y = -2x + 1$

$y = -2(-2) + 1$

$4 + 1$

$y = 5$

$y = -2(-1) + 1$

$2 + 1$

$y = 3$

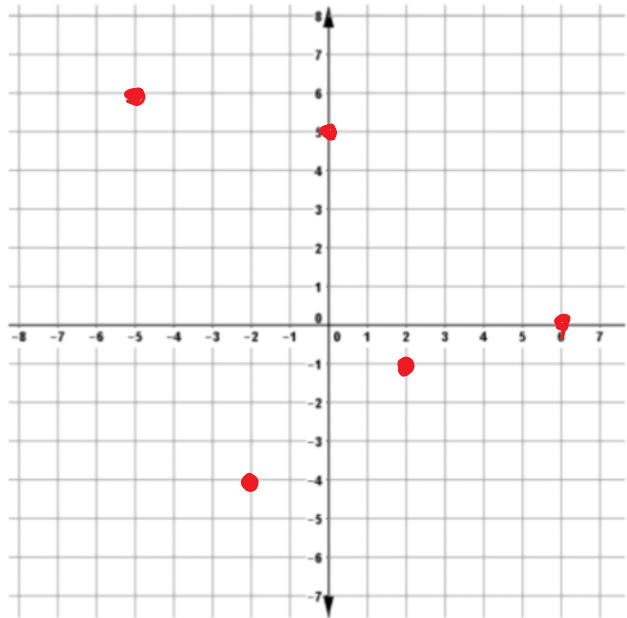| X	Y
−2	5
−1	3
0	1
1	−1
2	−3

PROBLEM 15:

Graph each of the following points

X	Y
2	−1
−5	6
0	5
−2	−4
6	0

PROBLEM 16

State the domain and range of each.

D   R

X	Y
2	−1
−5	6
0	5
−2	6
6	0

D: $\{-5, -2, 0, 2, 6\}$

R: $\{-1, 0, 5, 6\}$

$\{(4, -3), (2, 3), (-5, 2), (-3, 4), (6, 3)\}$
  x   y   x y   x   y   x   y   x y

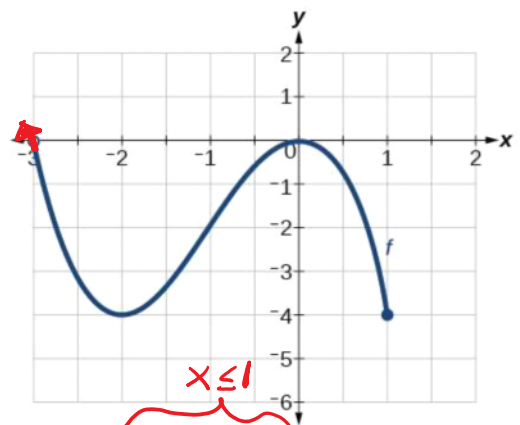D: $\{-5, -3, 2, 4, 6\}$

R: $\{-3, 2, 3, 4\}$

PROBLEM 16

State the domain and range of each.

$x \leq 15$

D: $-\infty < x \leq 15$

R: $-\infty < x < \infty$

$x \leq 1$

D: $-\infty < x \leq 1$

R: $-4 \leq y < \infty$

$y \geq -4$