

HONORS TEST 2 REVIEW GAME

PROBLEM 1:

Solve the Inequality

$$-8x + 6 \geq 62$$
$$\quad \quad \quad \underline{-6 \quad -6}$$

$$\frac{-8x}{-8} \geq \frac{56}{-8}$$

$$x \leq -7$$

Switch
the
inequality
sign
when
you
divide
by
a
negative
number

PROBLEM 2:

Given the point $(4, -2)$. Determine if point is a solution to the equation $7x + 4y = 20$. Must show work.

$$7(4) + 4(-2) = 20$$

$$28 - 8 = 20$$

$$20 = 20$$

$(4, -2)$ is a solution

PROBLEM 3:solve the formula for r

$$\frac{c(r - a)}{c} = \frac{b}{c}$$

$$\begin{array}{l} r - a \\ + a \end{array} = \frac{b}{c} + a$$

$$r = \frac{b}{c} + a$$

Do r	Undo r	
$- a$	$+ a$	↑
$\cdot c$	$\div c$	

PROBLEM 4:

Allison has saved \$7 and will earn \$5 per day. Matt has saved \$15 and will earn \$3 per day. How many days will it take them to have the same amount of money?

Find the common point with tables.

Allison: $a(d) = 7 + 5d$ Matt: $m(d) = 15 + 3d$

d	$a(d)$		d	$m(d)$	
1	12	$7 + 5(1)$	1	18	$15 + 3(1)$
2	17	$7 + 5(2)$	2	21	$15 + 3(2)$
3	22	$7 + 5(3)$	3	24	$15 + 3(3)$
4	27	$7 + 5(4)$	4	27	$15 + 3(4)$

$(4, 27)$

PROBLEM 5:

Complete the table and graph the points. (On test will need to plot the points.) $y = 3x + 4$

x	y
-2	2
-1	1
0	4
1	7
2	10

$$y = 3(-2) + 4$$
$$-6 + 4$$

$$y = -2$$

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

$$y = 3(0) + 4$$
$$0 + 4$$
$$4$$

PROBLEM 6:

Given the order pairs, state the domain and range.

$(\underline{5}, \underline{3}), (\underline{4}, \underline{2}), (\underline{7}, \underline{-1}), (\underline{9}, \underline{4}), (\underline{-2}, \underline{2})$

Domain: $\{-2, 4, 5, 7, 9\}$

Range: $\{-1, 2, 3, 4\}$

PROBLEM 7:

Solve the Equation

$$9 = \frac{x}{8} - 3$$

$$\begin{array}{r} 72 = x - 24 \\ +24 \quad \quad +24 \\ \hline \end{array}$$

$$96 = x$$

PROBLEM 8:

Solve the equation.

$$\begin{array}{r} 3(5x - 1) = 24 + 6x \\ 15x - 3 = 24 + 6x \\ \underline{-6x} \qquad \qquad \qquad \underline{-6x} \end{array}$$

$$\begin{array}{r} 9x - 3 = 24 \\ \quad +3 \quad +3 \\ \hline \end{array}$$

$$\frac{9x}{9} = \frac{27}{9}$$

$$x = 3$$

PROBLEM 9:

State the first 4 terms in the sequence given the explicit rule $f(n) =$

$$f(n) = 4n + 19$$

Common difference

n	$f(n)$
1	23
2	27
3	31
4	35

$$f(1) = 4(1) + 19$$

$$4 + 19$$

$$23$$

PROBLEM 10:

Allison has saved \$7 and will earn \$5 per day. Matt has saved \$15 and will earn \$3 per day. How many days will it take them to have the same amount of money?

Find the common point (solution) by solving the equation $a(d) = m(d)$
 $m(d)$.

Allison: $a(d) = 7 + 5d$

Matt: $m(d) = 15 + 3d$

$$7 + 5d = 15 + 3d$$

$$\begin{array}{r} 7 + 5d = 15 + 3d \\ -3d \quad -3d \\ \hline 7 + 2d = 15 \end{array}$$

$$\begin{array}{r} 7 + 2d = 15 \\ -7 \quad -7 \\ \hline 2d = 8 \end{array}$$

$$\frac{2d}{2} = \frac{8}{2}$$

$$d = 4$$

$$m(4) = 15 + 3(4)$$

$$15 + 12$$

$$m(4) = 27$$

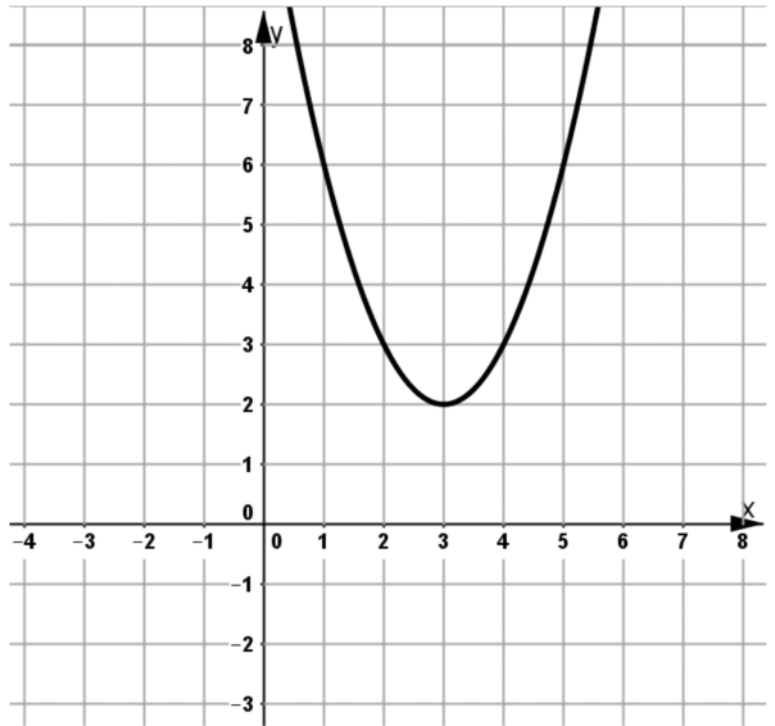
$$(4, 27)$$

PROBLEM 11:

State the domain and range in inequality notation.

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

$$R: y \geq 2$$



PROBLEM 12:

Determine if the table is a function or not a function. Justify your answer.

x	y
1	0
3	-7
-1	4
5	-9
3	-7

function
b/c each input
has its own
unique outputs

x	y
6	-10
-11	8
8	2
6	-9
-3	-7

Not a function
b/c the same
inputs have
different outputs

PROBLEM 13:

Solve the inequality.

$$\begin{array}{r} 7x - 3 > -66 - 2x \\ \underline{+2x} \qquad \qquad \qquad \underline{+2x} \end{array}$$

$$\begin{array}{r} 9x - 3 > -66 \\ \underline{+3} \qquad \qquad \qquad \underline{+3} \end{array}$$

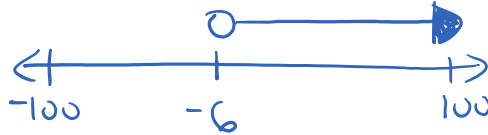
$$\frac{9x}{9} > \frac{-63}{9}$$

$$x > -7$$

PROBLEM 14:

Graph the inequality on a number line.

Part 1: $x > -6$

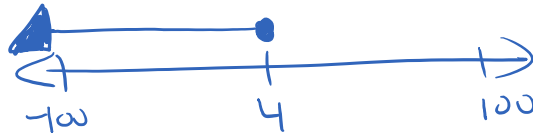


$>$ } open
 $<$ } circle

\geq } close
 \leq } circle

Part 2: $4 \geq x$

~~$x \leq 4$~~



PROBLEM 15:

Jimmy is buying a watch and is getting a 35% discount. He paid \$61.75 with the discount. How much was the original price of the watch?

Write an equation to model the situation. Then solve the equation.

$$\begin{array}{l} \text{Watch} - \text{discount} = \text{Total paid} \\ 1x - .35x = 61.75 \end{array}$$

$$\begin{array}{r} \cancel{.65x} = 61.75 \\ \cancel{.65} \quad \quad \quad \cancel{.65} \end{array}$$

$$\boxed{x = 95}$$

PROBLEM 16:

Given the sequence below, write **both explicit rules**.

n	$f(n)$
0	61
1	55
2	49
3	43
4	37

Handwritten annotations in red: -6 between 61 and 55, -6 between 55 and 49, -6 between 49 and 43, -6 between 43 and 37. A vertical line with $=d$ is drawn next to the -6 between 55 and 49.

$$f(n) = dn + f(0)$$

$$f(n) = -6n + 61$$

$$f(n) = d(n-1) + f(1)$$

$$f(n) = -6(n-1) + 55$$

PROBLEM 17:

Ms. Fields charges a \$1.00 flat rate to enter her amazing math class and \$0.35 per question asked. Kate, a student in Ms. Fields class has no more than \$6 to spend on today's class. Write an inequality that represents Kate's situation. How many questions can Kate ask without exceeding her limit?

$$\begin{array}{r} \text{Enter} \\ \text{fee} \\ 1.00 \\ -1 \\ \hline \end{array} + \begin{array}{r} \text{Per} \\ \text{question} \\ .35q \\ \hline \end{array} \leq \begin{array}{r} \$ \\ 6 \\ -1 \\ \hline 5 \\ \hline \end{array}$$
$$\frac{.35q}{.35} \leq \frac{5}{.35}$$
$$q \leq 14$$