

Name: KEY Date: _____ Period: _____

Unit 1 -Individual Assessment REVIEW SHEET

1 CAN... Evaluate a function for a given input—Find the input given the output of a function

1. If $f(x) = 3x - 2$ and $g(x) = x^2 - 2x$ and $h(x) = \sqrt{x - 3}$, evaluate the following:

<p>a. $f(-2) = 3(-2) - 2$ $= -6 - 2$ $f(-2) = -8$</p>	<p>b. $g(7) = (7)^2 - 2(7)$ $= 49 - 14$ $g(7) = 35$</p>	<p>c. $h(19) = \sqrt{19 - 3}$ $= \sqrt{16}$ $h(19) = 4$</p>
<p>d. $h(0) = \sqrt{0 - 3}$ $= \sqrt{-3}$ $h(0)$ IS UNDEFINED</p>	<p>e. <u>Find x if $f(x) = 15$</u> FIND THE INPUT $\begin{array}{r} 15 = 3x - 2 \\ +2 \quad +2 \\ \hline \frac{17}{3} = \frac{3x}{3} \\ \frac{17}{3} = x \end{array}$</p>	<p>f. <u>Find x if $h(x) = 4$</u> $(4)^2 = (\sqrt{x - 3})^2$ $16 = x - 3$ $+3 \quad +3$ $19 = x$</p>

1 CAN... Solve a multi-step equation

2. Solve each equation below.

a. $-3(1 + 6r) = 14 - r$

$$\begin{array}{r} -3 - 18r = 14 - r \\ +18r \quad +18r \\ \hline -3 = 14 + 17r \\ -14 \quad -14 \\ \hline -17 = 17r \\ \hline 17 \quad 17 \\ -1 = r \end{array}$$

b. $-4k + 2(5k - 6) = -3k - 3$

$$\begin{array}{r} -4k + 10k - 12 = -3k - 3 \\ +3k \quad +3k \\ \hline 9k - 12 = -3 \\ +12 \quad +12 \\ \hline 9k = 9 \\ \hline 9 \quad 9 \\ k = 1 \end{array}$$

$\checkmark: -3(1 + 6(-1)) = 14 - (-1)$
 $-3(1 - 6) = 14 + 1$
 $-3(-5) = 15$
 $15 = 15$ ✓

$\checkmark: -4(1) + 2(5(1) - 6) = -3(1) - 3$
 $-4 + 2(5 - 6) = -3 - 3$
 $-4 + 2(-1) = -6$
 $-4 - 2 = -6$ ✓

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c. $-10n + 3(8 + 8n) = -6(n - 4)$

$$\begin{aligned} -10n + 24 + 24n &= -6n + 24 \\ 14n + 24 &= -6n + 24 \\ +6n &\quad +6n \\ \hline 20n + 24 &= 24 \\ -24 &\quad -24 \\ \hline 20n &= 0 \\ \frac{20n}{20} &= \frac{0}{20} \\ n &= 0 \end{aligned}$$

$\checkmark: -10(0) + 3(8+8(0)) = -6(0-4)$
 $0 + 3(8+0) = -6(-4)$
 $0 + 3(8) = 24$
 $24 = 24 \checkmark$

d. $(3)^2 = (\sqrt{b-1})^2$

$$\begin{array}{rcl} 9 & = & b - 1 \\ +1 & & +1 \\ \hline 10 & = & b \end{array}$$

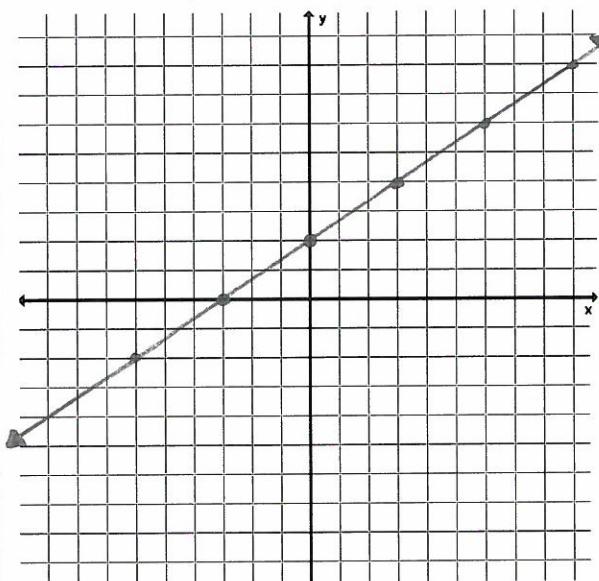
$$\begin{aligned} \checkmark: 3 &= \sqrt{10-1} \\ 3 &= \sqrt{9} \\ 3 &= 3 \quad \checkmark \end{aligned}$$

I CAN...

—Graph a given function — Investigate a function — Connect multiple representations of a linear relationship.

3a. Investigate the function $y = \frac{2}{3}x + 2$.

x	y
-6	-2
-3	0
0	2
3	4
6	6
9	8



Shape of the graph? LINE

Domain: $(-\infty, \infty)$ or $-\infty < x < \infty$

Range: $(-\infty, \infty)$ or $-\infty < y < \infty$

x-intercept: $(-3, 0)$

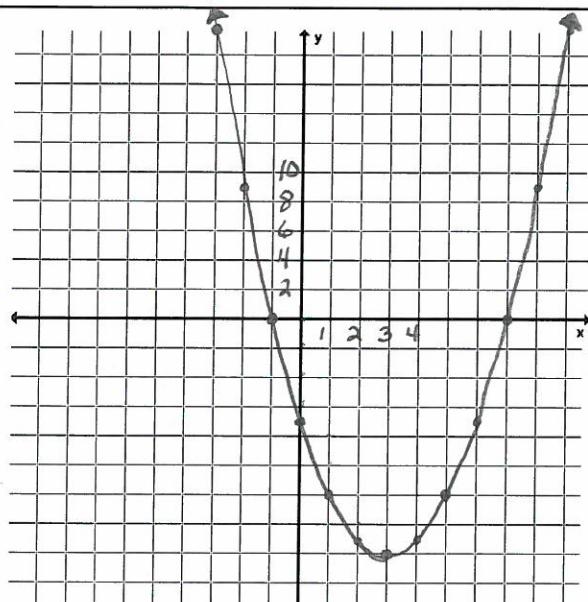
y-intercept: $(0, 2)$

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3b. Investigate the function $y = x^2 - 6x - 7$.

x	y
-3	20
-2	9
-1	0
0	-7
1	-12
2	-15
3	-16
4	-15

5 -12



Shape of the graph? PARABOLA

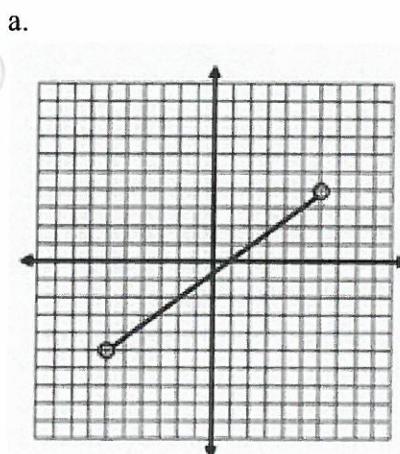
Domain: $(-\infty, \infty)$ or $-\infty < x < \infty$

Range: $[-16, \infty)$ or $-16 \leq y < \infty$

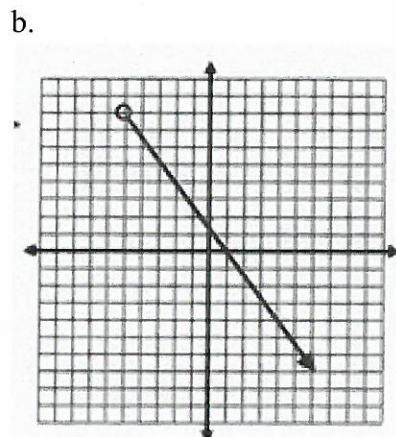
x-intercepts: $(-1, 0), (7, 0)$

y-intercept: $(0, -7)$

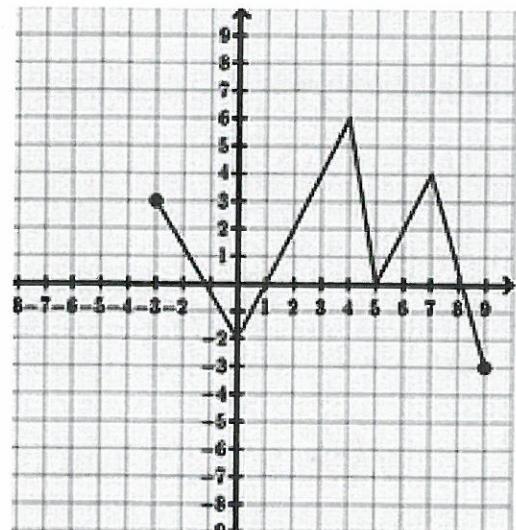
4. For each graph below, state the domain and the range



Domain: $(-6, 6)$
OR $-6 < x < 6$
Range: $(-5, 4)$
OR $-5 < y < 4$



Domain: $(-5, \infty)$
Range: $(-\infty, 8)$
OR $-\infty < y < 8$



Domain: $[-3, 9]$
Range: $[-3, 6]$

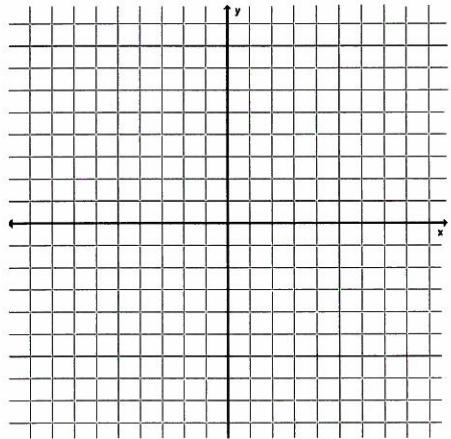
KEY

5. Determine the point of intersection for the functions below.

(You do NOT have to use the graphs for these problems. You may chose another way to solve this system.
The graphs are only here in case you need them)

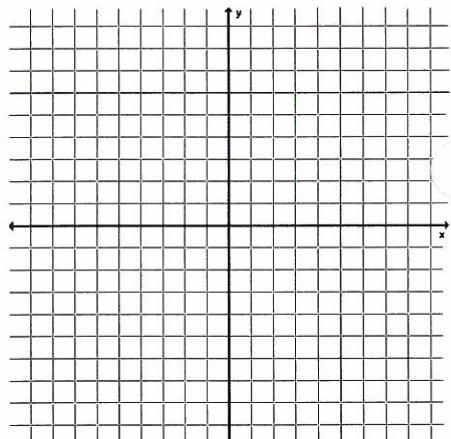
(a) $y = \frac{1}{2}x - 5$ (b) $y = -3x + 2$

$(2, -4)$



(a) $y = -4x + 2$ (b) $y = 2x - 3$

$(0.83, -1.33)$ or $(\frac{5}{6}, -\frac{4}{3})$



(a) $y = x^2 + 4x + 6$ (b) $y = -3x - 4$

$(-2, 2)$, $(-5, 11)$

