key

First Name:_____   Last Name:_____

L32 – FQ – Chapter 6 Review

Q1: Fill in the chart *(4 marks)*

Domain		Range
	Words	
x can be any value.		y is less than or equal to 7, and is a real number.
	Number Line	
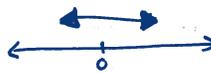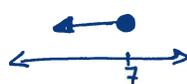
Set Notation		
$\{x \mid -\infty < x < \infty, x \in \mathbb{R}\}$ or $\{x \in \mathbb{R}\}$		$\{y \mid -\infty < y \leq 7, y \in \mathbb{R}\}$ or $\{y \mid y \leq 7, y \in \mathbb{R}\}$
	Interval Notation	
$(-\infty, \infty)$		$(-\infty, 7]$
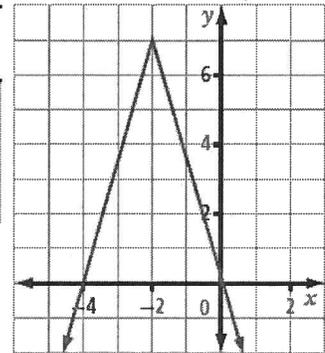
Q2: *(Long Answer)* A line passes through the points (3,-8) and (7,14). Calculate the slope. *(2 marks)*

$$x_1 \quad y_1 \qquad x_2 \quad y_2$$

$$m = \frac{y_2 - y_1}{x_2 - x_1} = \frac{14 \cdot (-8)}{7 - 3} = \frac{22}{4} = \boxed{\frac{11}{2}} \rightarrow \text{Better answer than 5.5}$$

Use the following information to answer Q3-Q6:

$$f(x) = 2x^2 + 1 \qquad g(x) = 3x + 1 \qquad h(x) = -\frac{1}{5}x + 4$$

Q3: f(4) =

a. 1.2
b. 9
c. 33
d. 65

$f(x) = 2(x)^2 + 1$
$f(4) = 2(4)^2 + 1$
$\quad = 2(16) + 1$
$\quad = 32 + 1$
$\quad = 33$

Q4: h(10) =

*(Record your **one digit** answer in the Numerical Response boxes below)*

2			

$h(x) = -\frac{1}{5}(x) + 4$
$h(10) = -\frac{1}{5}(10) + 4$
$\quad = -2 + 4$
$\quad = 2$

Q5: If g(x) = 8, then $x = \frac{a}{b}$, where **a** and **b** are ___ and ___.

*(Record your **two digit** answer in the Numerical Response boxes below)*

7	3		

$g(x) = 3x + 1$
$8 = 3x + 1$
$7 = 3x$
$\frac{7}{3} = x$

so $x = \frac{7}{3}$
$x = \frac{a}{b}$ $\Rightarrow$ $a = 7$
$\quad b = 3$

Q6: *(Short Answer)* Which of the functions are linear? *(1 mark)*

$g(x)$ and $h(x)$

Q7: *(Long Answer)* Graph the line that goes through the point (-3, 5) and has a slope of $\frac{-2}{5}$ *(2 marks)*
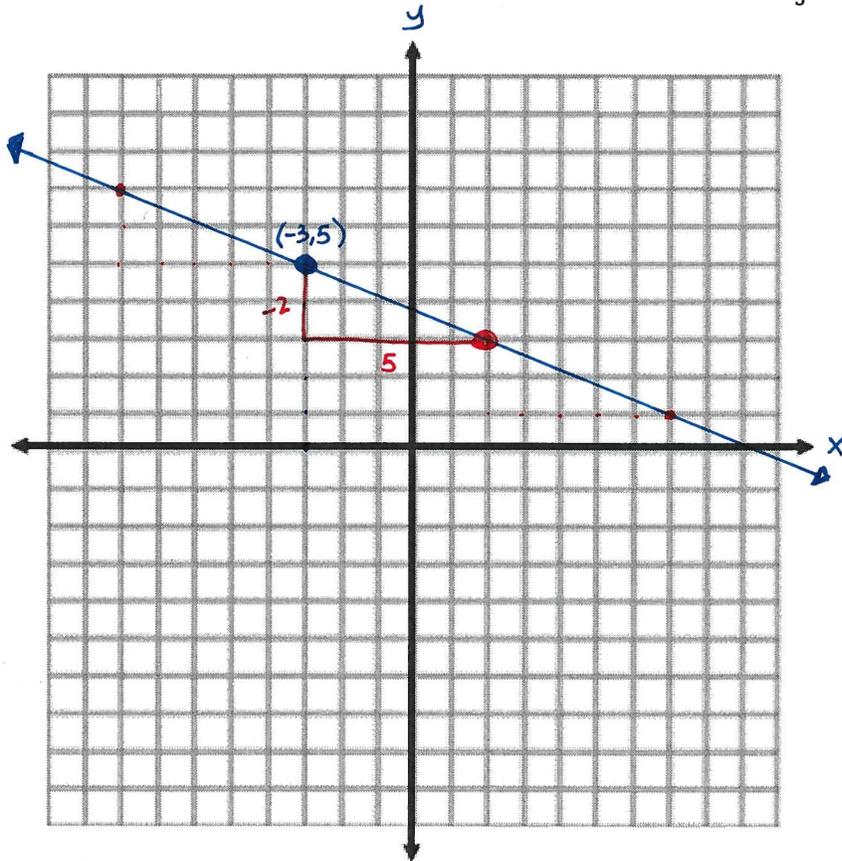
MARKING:

Beginning	0.0 – 5.5
Progressing	6.0 – 8.5
Competent	9.0 – 11.5
Exemplary	12.0