**Gonzaga 2014 Math 3200 - Chapter 1: Function Transformations**

**Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

***Part A: Multiple Choice (15 marks)***

1. If the mapping rule $\left(x,y\right)\rightarrow \left(-\frac{1}{4}x-1,y+3\right)$is applied to $y=f(x)$, what is the transformed equation?

 A. $y=f\left(-\frac{1}{4}\left(x+1\right)\right)-3$

 B. $y=f\left(-4\left(x-1\right)\right)+3$

 C. $y=f\left(-4\left(x+1\right)\right)+3$

 D. $y=f\left(-\frac{1}{4}\left(x-1\right)\right)-3$

2. What is the mapping rule that is applied to $y=f(x)$ to obtain

 $y-5=f(-2x-6)$?

 A. $\left(x,y\right)\rightarrow \left(-\frac{1}{2}x+6,y+5\right)$

 B. $\left(x,y\right)\rightarrow \left(-\frac{1}{2}x+6,y-5\right)$

 C. $\left(x,y\right)\rightarrow \left(-\frac{1}{2}x-3,y+5\right)$

 D. $\left(x,y\right)\rightarrow \left(-\frac{1}{2}x-3,y-5\right)$

3. If the point $\left(3,7\right)$ lies on the graph of $ y=g(x)$ , which point lies on the graph of $y=2g(-x)$?

 A. $\left(-3,14\right)$

 B. $\left(-6, 7\right)$

 C. $\left(6,-7\right)$

 D. $\left(3,-14\right)$

\_\_\_\_\_4. If $y$ is replaced by 3y in the equation $y=f(x)$, the graph of $y=f(x)$ will be stretched

A) horizontally by a factor $\frac{1}{3}$

B) vertically by a factor of 3

C) horizontally by a factor of 3

D) vertically by a factor of $\frac{1}{3}$



\_\_\_\_\_5. Given $y=2x-5$, which graph represents $f^{-1}(x)$?

A)

\_\_\_\_\_6. What is the inverse equation of $f\left(x\right)=\frac{3}{2}x-\frac{1}{2}$?

A)

B)

C)

D)

\_\_\_\_\_7. Which of the following transformations to the graph of $y=f(x)$ would have the y-intercepts as invariant points?

 A) $y=f\left(x\right)+4$ B) $y=f(x-4)$

C) $y=f-(x)$ D) $y=-f(x)$

\_\_\_\_\_12. The function $y=f(x)$ is transformed to $y=2f(x-3)$. If the original domain is

 $\left\{x/-4\leq x\leq 2,x ϵ R\right\}$, what is the domain of the transformed function? What would the range of the inverse function of the transformation be? LEVEL 3 QUESTION

 A) $\left\{x/-7\leq x\leq 2,x ϵ R\right\}$ B) $\left\{x/-1\leq x\leq 5,x ϵ R\right\}$

C) $\left\{x/-8\leq x\leq 4,x ϵ R\right\}$ D) $\left\{x/-2\leq x\leq 1,x ϵ R\right\}$

13. What is the domain of the inverse function $y=3x^{2}+6x-1$?

A)$x\leq -1$

B)$ x\geq -1$

C)$ x\leq -4$

D)$ x\geq -4$

Short Answer Question LEVEL 3 - one like it on public!

19. Sketch the graph of $f^{-1}(x)$after $f(x)$has undergone a vertical stretch of 2, reflection in the x-axis, and horizontally 5 left.

give graph of f(X)