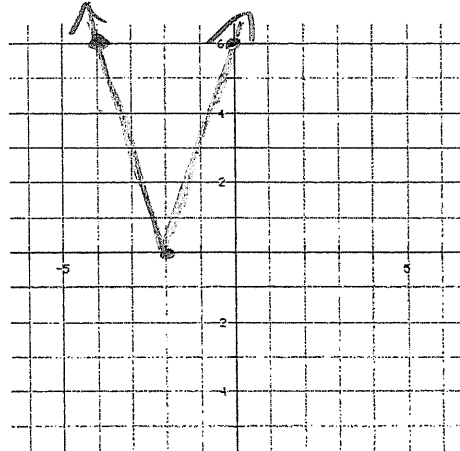
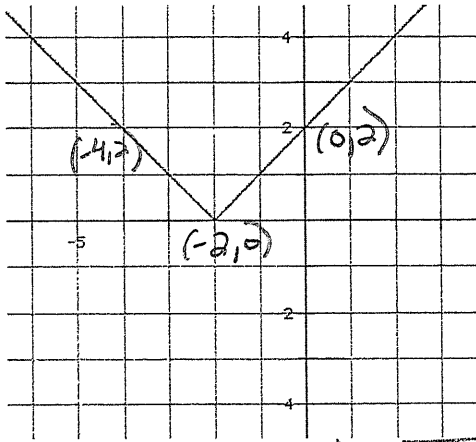


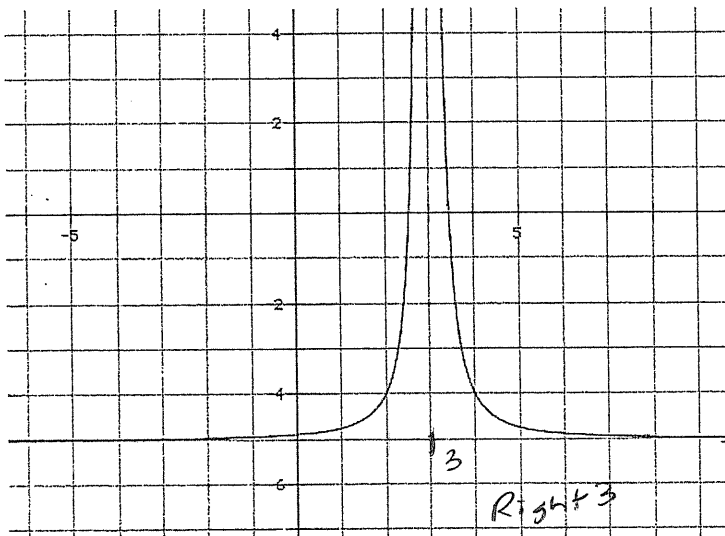
FST Chap 3 review 2

1) The graph of a function F is shown below. Sketch a graph of its image under the transformation S when $S(x,y) = (x, 3y)$. Be point specific (3 points) when graphing.



$(-4, 2) \rightarrow (-4, 3(2)) \rightarrow (-4, 6)$
 $(-2, 0) \rightarrow (-2, 3(0)) \rightarrow (-2, 0)$
 $(0, 2) \rightarrow (0, 3(2)) \rightarrow (0, 6)$

2) The graph below is a translation image of the parent function $y = \frac{1}{x^2}$. Write an equation for the function that is graphed.



$$y = \frac{1}{(x-3)^2} - 5$$

3) Is $f(x) = 5x^2 - x$ even, odd or neither?

$$\begin{aligned}
 f(-x) &= 5(-x)^2 - (-x) \\
 &= 5x^2 + x \neq f(x) \\
 &\neq -f(x)
 \end{aligned}$$

NOT EVEN
NOT ODD

NEITHER

MEASURES OF CENTER - CHANGE
 MEASURES OF SPREAD - STAY SAME

4)

A set of data is translated. Find the missing values in the table.

	Original Data	Translated Data
n	? 15	15
C mean	68	+7 75
S standard deviation	? 5.3	5.3
C median	65	+7 ? 72
S range	? 17	17
S IQR	8	? 8

5)

Ian Vestor is trying to decide whether he should purchase stock in Usaco, a United States company, or Japanco, a Japanese company. He recorded the closing price of each stock over a one-month period, and computed the mean and standard deviation for each.

	Usaco (dollars)	Japanco (yen)
Mean Stock Value	\$39.60	¥4665
Standard Deviation	\$2.50	¥131

$$\begin{aligned} \$ &= \frac{\text{Yen}}{88} \\ \$53.01 &= \frac{4665}{88} \\ \$1.49 &= \frac{131}{88} \end{aligned}$$

To compare the stocks, Ian rescales his raw data by converting the price in yen to dollars, using the exchange rate $\$1 = ¥88$. If Ian is trying to minimize his risk by choosing the stock with the least variability, which stock should he buy? Justify your answer.

S.D. of Japanco is \$1.49 vs. Usaco \$2.50.
 A lower S.D. indicated less variability.
 So Ian should go with Japanco.

6) Let $f(x) = \frac{7}{x-1}$ and $g(x) = 8x$.

a) Write an expression for $f(g(x))$.

$$\frac{7}{8x-1}$$

b) Give the domain of $f \circ g$.

Domain of g : All \mathbb{R}

Domain of $f(g(x))$: $8x-1 \neq 0$
 $8x \neq 1$
 $x \neq \frac{1}{8}$

$$D: \{x \mid x \neq \frac{1}{8}\}$$