Name: _____ Date: _____

Transformations Assignment

Please show all of your work for the questions below. Write your solutions on a separate piece of paper with the question numbers clearly labelled. <u>Due on the day of the test, at the beginning of class</u>! You will get full solutions at that time in preparation for the test. (10 marks total)

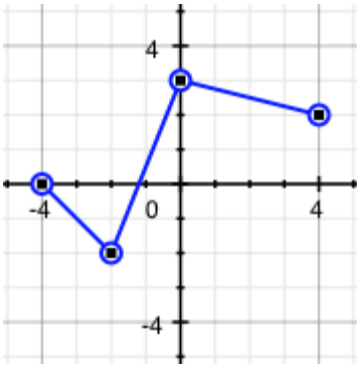
1. If (4, −2) is on the graph of $y = f(x)$, determine another point on the graph of $y = 2f(3x)$. (1 mark)

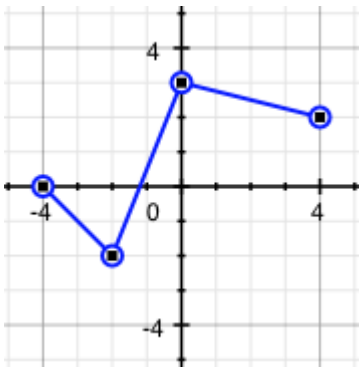
2. Explain how the graph of $y = f(2 - 4x)$ is related to the graph of $y = f(x)$. (2 marks)

3. Determine the inverse of the function $f(x)=\frac{2x-1}{x}$. Is the inverse also a function? Explain. State the domain and range of each relation. (3 marks)

4. Given the function $y=x^3-x^2-x$, determine an equation for its reflection in y-axis followed by a reflection in the x-axis. (1 mark)

5. Given the graph of $y = f(x)$, (2 marks)
   a) sketch its inverse, $x = f(y)$, on the grid below (left) or on a separate piece of paper.
   b) sketch $y=\frac{f(1-x)}{2}+1$ on the grid below (right) or on a separate piece of paper.





6. Given the function $f(x)=x^2$, sketch the graph of $y=-2f(x+4)-5$. You may use the grid on the back of this page or a separate piece of grid paper. (1 mark)