Math 119 Summer 2017
Test #1 (Part 2)

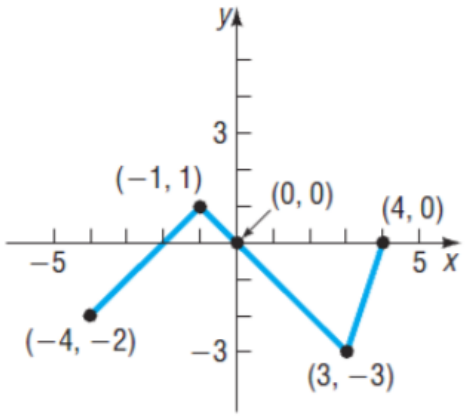
Name_____ **Part 1 Score_____/50**

You MUST show all your work to get credit. **Part 2 Score_____/50**

Test #1 Combined Score_____/100

1.) Worth 10 points

Use the graph of the function *f* to find:



(a) The domain and the range of *f*. **Domain:_____** **Range:_____**

(b) The intervals on which *f* is increasing, decreasing, or constant (if any).

Increasing Region:_____

Decreasing Region:_____

Constant Region:_____

(c) The local minimum values and local maximum values.

Local minimum:_____

Local maximum:_____

(d) Whether the function is even, odd, or neither. (Circle your answer)

EVEN **ODD** **NETHER**

(e) The intercepts (as coordinates), if any.

x-intercept = _____

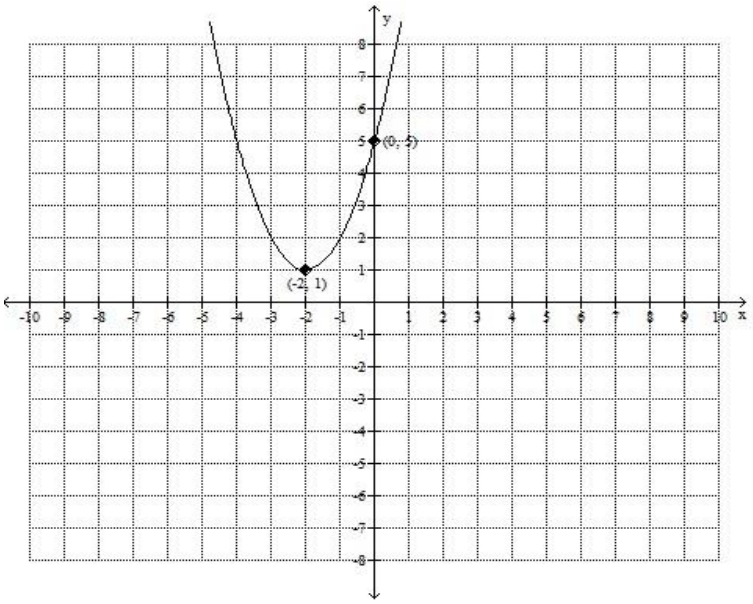
y-intercept = _____

2.) Worth 10 points

Find the difference quotient of $f(x) = 3x^2 - 2x + 4$; that is, find $f'(x) = \dfrac{f(x+h) - f(x)}{h}, h \neq 0$.

Answer:_____

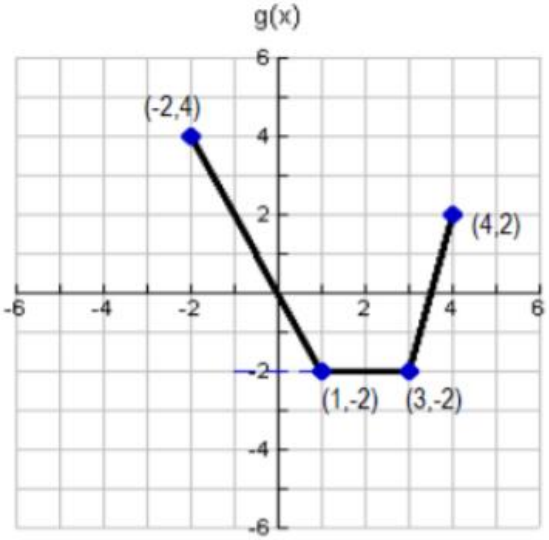
3.) Determine the quadratic function whose graph is given. You must state your answer in standard form. (Worth 5 Points)



Answer:_____

4.) Find the following Transformation. Your final answer is a clearly drawn graph showing the transformation. (Worth 5 Points)

Given the graph of g below, sketch the graph of $y=-\frac{1}{2}g(x+2)$



5.) For the following quadratic function: find the vertex (as a coordinate pair), axis of symmetry, maximum or minimum value, domain and range (in interval notation), intercepts (as coordinates), identify increasing and decreasing region, and finally graph.

(Worth 10 Points)

$$f(x)=2x^2+8x+5$$

a. Vertex: _____

b. Axis of Symmetry: x = _____

c. Maximum or Minimum (circle the right answer) Max or Min Value: _____ d. Domain (interval notation) = _____

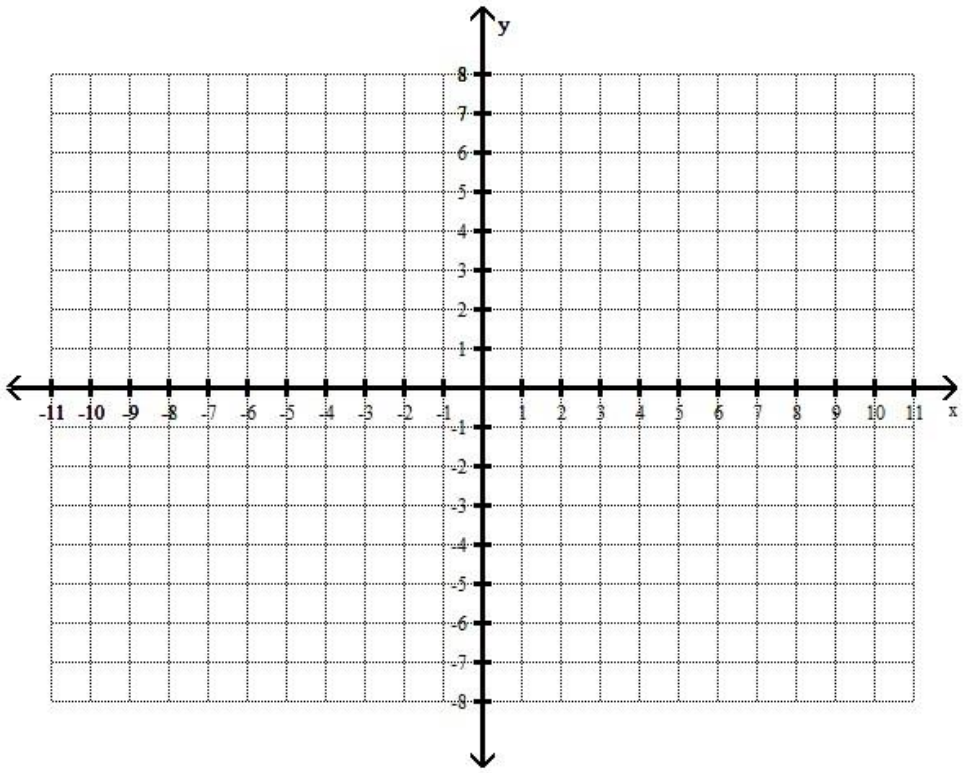
e. Range (interval notation) = _____

f. x-intercept(s) = _____

g. y-intercept = _____

h. increasing region = _____

i. decreasing region = _____



j. GRAPH