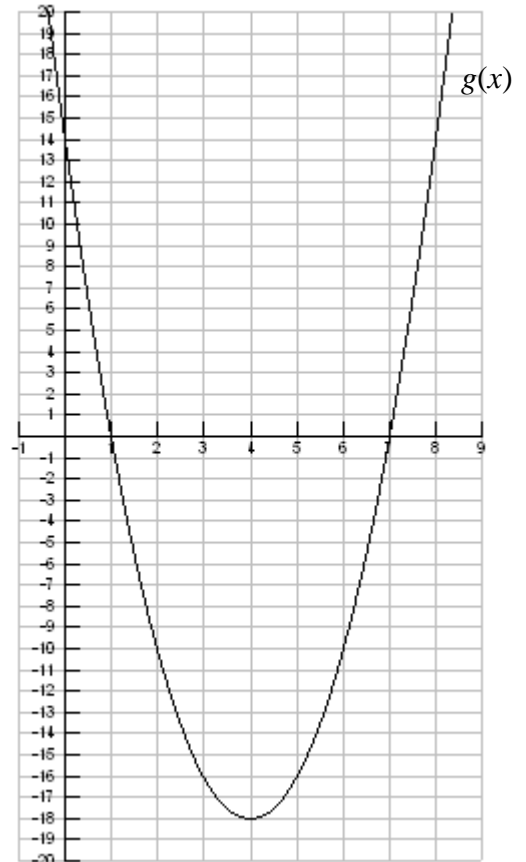


MA 153 Writing Assignment 3
Three Formulas for a Quadratic Function
Due Friday, October 26, 2007

Name _____

After your reading of Section 5.5, complete the following.
 You might find it helpful to reread Section 2.6

The function $g(x)$ shown in the graph is a translation of $f(x) = 2x^2$.



1. Find a formula for $g(x)$ using the fact that it is a translation of $f(x) = 2x^2$.
 Tip: Check with a grapher.

2. Simplify the formula for $g(x)$ so that it has the form $g(x) = ax^2 + bx + c$ (standard form).
 Tip: Check with a grapher.

3. $g(x)$ is a quadratic function that can be factored.
 Write down the formula in factored form.
 Tip: Check with a grapher

4. Use the graph to find the coordinates of the vertex of $g(x)$. _____
 Is there a connection between the **coordinates of the vertex** and the formula in Question 1?
 Explain.

5. Use the graph to find where $g(x)$ crosses the y -axis. _____
 Is there a connection between the **y -intercept** and the formula in Question 2? Explain.

6. Use the graph to find where $g(x)$ crosses the x -axis. _____
 Is there a connection between the **zeros (x -intercepts)** and the formula in Question 3?
 Explain.

7. Write down three different formulas for $g(x)$.

vertex form: $g(x) =$ _____

standard form: $g(x) =$ _____

factored form: $g(x) =$ _____