Name:

MATH 105 - SEC 001, FALL 2010. QUIZ 7
TIME LIMIT: 20 MINUTES

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Good luck!

Problem 1. The graph of the function $g(x)$ contains the point $(5, 1/3)$. What point must be on the graph of $y = 3g(x) + 1$?

Problem 2. The number of gallons of paint, $n = f(A)$, needed to cover a house is a function of the surface area, in ft^2. Match each story to one expression.

a) I figured out how many gallons I needed and then bought two extra gallons just in case.

b) I bought enough paint to cover my house twice.

c) I bought enough paint to cover my house and my welcome sign, which measures $2ft^2$

Problem 3.

Find the value of k so that the graph of $y = (x - 3)^2 + k$ passes through the point $(6, 3)$

Problem 4. Find the vertex and axis of symmetry of the graph of

$$v(t) = 2t^2 + 11\ t - 4$$

Problem 5. The temperature of a chemical reaction oscillates between a low of 30°C and a high of 110°C. The temperature is at its lowest point when $t = 0$ and completes one cycle over a five-hour period.

a) Sketch the temperature, T, against the elapsed time, t, over a ten-hour period.

b) Find the period, the amplitude, and the midline of the graph you drew in part a)