

Quiz 2, Business Calculus

Summer Session I, 2012

Name: _____

1. (4 points) Barney wants to manufacture purple dinosaur toys to sell to children. If he produces 30 toys, they cost \$50 per toy to make. For each toy produced beyond 30, the cost per toy drops by \$2.
 - (a) Calculate the total cost for Barney to make 35 toys.
 - (b) Let x be the number of toys beyond 30 that Barney makes, and assume $x \geq 0$. Find an expression in terms of x that gives the total production cost of the toys.

2. (3 points) Calculate $\lim_{x \rightarrow 4} \frac{x - 4}{x^2 - x - 12}$. Show your work to receive full credit.

3. (3 points) Sketch the graph of $f(x) = \begin{cases} x + 1 & \text{if } x \leq -2 \\ 4 & \text{if } -2 < x < 2 \\ 3x - 2 & \text{if } x \geq 2 \end{cases}$

