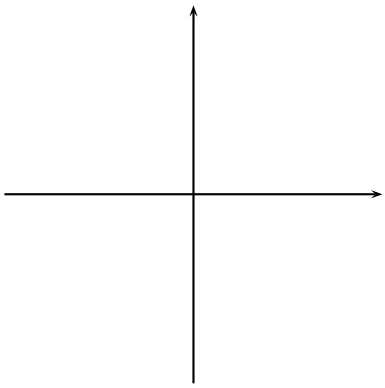
MA 125-06 §1.4,1.7,2.1	**Quiz #1**	*score*	**Name:** _____ **29 August 2000**

1. Sketch the graph of the parametric curve given by the equations

$$\begin{aligned} x(t) &= \cos(t) \\ y(t) &= \cos(2t + .5) \end{aligned} \qquad (1)$$

Use enough of a t-interval so that you include the entire curve. Scale the axes with numerical coordinates to show the size of the graph. *(6 points)*



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2. Make a scatter plot of the data in the following table on your calculator and decide what type of mathematical model (linear, logarithmic, exponential, power) should be used to model the data. Then use the regression capabilities of your calculator to find the equation of the model and write it in the space provided. Then use the equation to estimate the value of y when $x = 11$. *(7 points)*

x	4	6	8	10
y	2.1	3.5	8.0	11.1

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3. Let $f(x) = \frac{1}{x}$. Note the the point $P = (2, \frac{1}{2})$ is on the graph of f. Let $Q = (x, f(x))$ and find the slopes (correct to 4 decimals) of the secant lines PQ using x-values of 1.5, 1,8, 1.9, and 1.99. Estimate the slope of the tangent line to the graph of $f(x)$ at the point $(2, \frac{1}{2})$ from this information. *(7 points)*