

NAME AND SECTION: _____

INSTRUCTOR'S NAME: _____

QUESTIONNAIRE

1. Why are you attending this course? What skills do you think you will learn that are going to be useful in the future?

2. Are you planning to attend further math classes in the future?

3. What are your academic interests? Do you already know which one will be your major?

4. List some of your non academic hobbies and things that you like to do when you are not in class.

5. What is the favorite topic you have learnt during the Math 1 course?

MATH 2 REVIEW TEST

January 5, 2007

1. Simplify the following expressions if you can

(a)

$$\frac{x^2}{\sqrt{x}}$$

(b)

$$\frac{x^3 - 3x^2 - 10x}{x^2 - 25}$$

(c)

$$\frac{x^2 - 4}{\sqrt{x + 2}}$$

2. Find the derivative of the following functions

(a)

$$x^3 e^{-x}$$

(b)

$$\sin(x) \cos(x)$$

(c)

$$\cos(\sqrt{x})$$

(d)

$$\sin(x^3)$$

(e)

$$4x \sin(\sqrt{x})$$

3. Evaluate the following limits:

(a)

$$\lim_{x \rightarrow 7} \frac{x^2 - 49}{x - 7}$$

(b)

$$\lim_{x \rightarrow \infty} \frac{x^2 - 49}{x - 7}$$

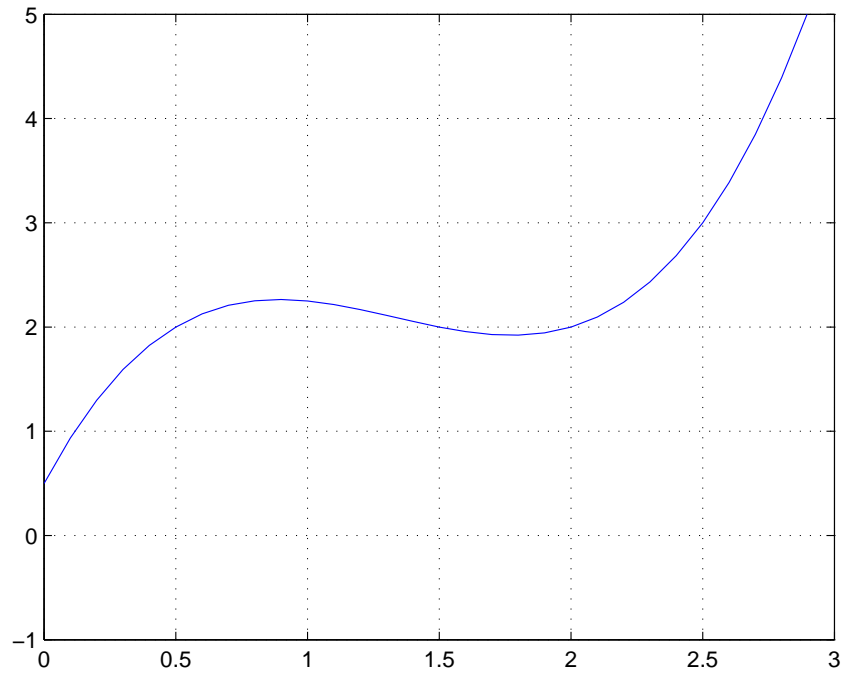
(c)

$$\lim_{x \rightarrow 3} \frac{4 - \sqrt{7 + 6x - x^2}}{x - 3}$$

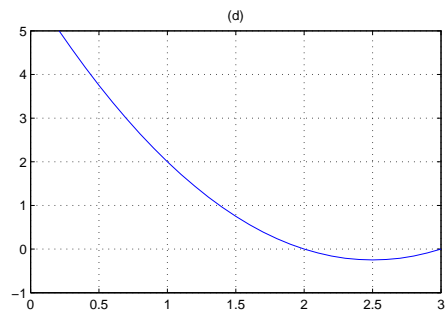
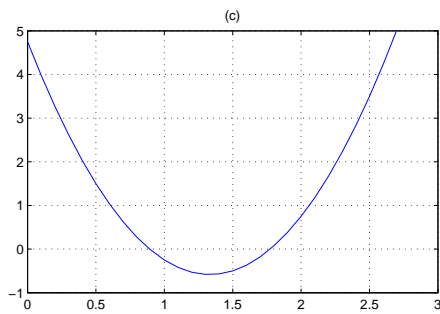
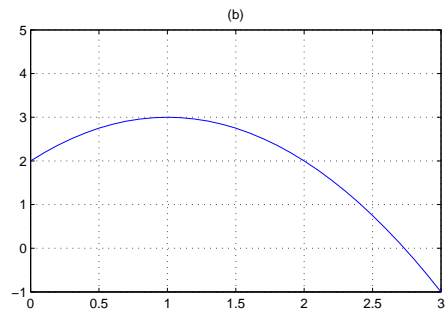
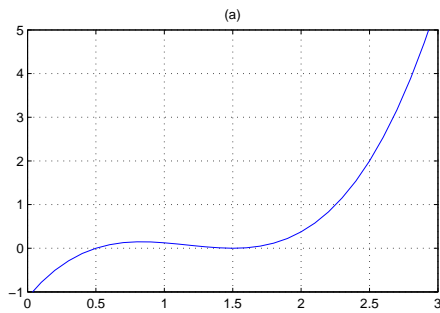
(d)

$$\lim_{x \rightarrow \infty} \arctan(x^4 - 3x^2 + 7x)$$

4. Consider the following figure:



Which one of the following is the derivative of the above function? Circle it.



- (f) With the information collected in the previous part of the problem, sketch a graph of the function that agrees with what was collected before. Explain as best as you can the way you use this information to draw the graph of the function.