

Tests are very important to your final grade. Each test is worth almost 17% of your semester grade. The following is a list of suggestions for reviewing for tests.

1. Do not wait until the night before the test to begin to review. This will not work!
2. Begin by reading the notes of all classes. Pay close attention to the examples done in class and any worksheets completed in class.
3. Complete this review worksheet and understand the algebraic concepts involved with each problem.
4. Look over homework assignments, and be able to do all of the problems assigned..
5. Be able to do the problems assigned from the workbook on the Review Day, the class period before the test.

Section #1: The following problems should be done without a graphing calculator.

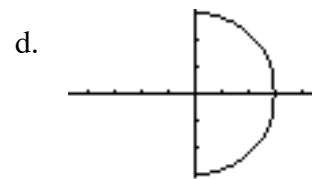
1. Determine whether each of the following represents a function of y in terms of x .

a. $y = x^2 - 4$

b. $x = y^2 - 4$

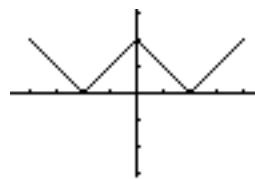
c.

x	1	2	3	4
y	2	3	2	3



2. Refer to the graph shown at the right.

- a. State the domain and range.
- b. Evaluate $f(4)$.
- c. For what values of x does $f(x)=1$?
- d. For what values of x is $f(x)>0$?
- e. For what values of x is f increasing?



3. For each of the following functions,
- a. Find the zeros of the function.
 - b. State the domain of the function in interval notation.

i. $f(x) = \sqrt{3x - 12} - 3$

ii. $g(x) = \frac{2x + 3}{3x^3 - 27x}$

4. If $f(x) = x^2 - 4x + 1$, find the following.

a. $f(x) - f(2)$

b. $f(x) - 2$

c. $f(x - 2)$

d. $\frac{f(x) - f(x - 2)}{2}$

e. $\frac{f(x + h) - f(x)}{h}$

5. Evaluate $f(-x)$ to determine if $f(x) = 2|x| - 3x^2$ is an even function, odd function, or neither.

6. Given $f(x) = \begin{cases} 3 & \text{if } x \leq -2 \\ x^2 & \text{if } -2 < x < 1 \\ \frac{1}{x} & \text{if } x \geq 1 \end{cases}$

a. Evaluate $f(0)$, $f(1)$, $f(-5)$, $f(-3/2)$, $f(3/2)$

b. Sketch the graph of f .

7. The diagonal of a rectangle is 4 in more than the length. Write the length as a function of the width.

Section 2: You may use your graphing calculator for the following problems.

8. Given $f(x) = x^3 - 5x^2 - 80x$

a. Algebraically, find the zeros of the function. Write your answers rounded to the nearest 0.01.

b. Use your calculator to sketch the complete graph of the function. Indicate the viewing window that you used.

c. Graphically, find the zeros of the function to verify your answer to part a.

d. Find the turning points (maximums and minimums) of the function. Write answers rounded to the nearest 0.01.

e. Using interval notation, write the intervals where the function f is positive, and where it is negative.

f. Using interval notation, write the intervals where the function f is increasing, and where it is decreasing.

9. Complete the **Can Problem**, on the **Introduction to Graphing With the Graphing Calculator** worksheet.