Exam 2 Retake Instructions

You may re-do any of the problems for which you did not receive full credit.

Print the exam below or you may use your own paper.  If you use your own paper, make sure you rewrite the entire question and not just your answer.


On Tuesday, November 8 turn in this exam and the original exam that was passed back to you on Thursday.

Name:

MATH 1513 – College Algebra
Exam 2 – 1 November 2011

Instructions: Circle your final answers. Show all work. No calculators.

1. Let $f(x) = x^2 - 4$ and $g(x) = x + 2$. Determine the following:
a.) $(f - g)(x)$

b.) $\left(\frac{f}{g}\right)(x)$

c.) $\left(\frac{f}{g}\right)(-2)$

d.) $(f \circ g)(x)$

2. Determine whether the following functions are even, odd, or neither.
a.) $f(x) = x^7 - x^5 + x^4 - x^3$

b.) $g(x) = 13x^4 - 97x^2 + 105$

c.) $h(x) = \sqrt{1 - x^2}$

3. Evaluate the following by rewriting each in the form $a + bi$ where $a$ and $b$ are real numbers.
a.) $(1 + 3i) - (2 - 3i)$

b.) $(1 + 3i)(2 - 3i)$

c.) $\frac{1+3i}{2+3i}$

4. Find the zeroes of the following functions:
a.) $f(x) = 2x^2 - 5$

b.) $g(x) = \frac{1}{2}x^2 - 9x + 2$

c.) $h(x) = x^2 + 2$

5. Let $f(x) = \frac{2}{3}x^2 + 4x - 3$. Determine the coordinates of the vertex of the graph of $y = f(x)$. Is the function value at the vertex a global minimum, a global maximum, or neither?

6. Solve the equation: $\frac{x+1}{4} - \frac{2}{x-1} = 3$

7. Solve the equation: $\sqrt{3x^2 - 2} = x + 1$

8. Solve and sketch the solution set of the inequality: $|-2x + 3| > 9$

9. Solve using an appropriate substitution: $x^4 - 2x^2 + 1 = 0$

10. What would be the resulting function, $g(x)$, if the graph of $y = g(x)$ is the result of the following transformations made on the graph of $y = f(x)$? That is, write $g(x)$ in terms of $f(x)$.
 i) A reflection about the y-axis.
 ii) A reflection about the x-axis.
 iii) A horizontal stretch by a factor of 2.
 iv) A vertical stretch by a factor of 2.
 v) A horizontal translation right 5 units.