MATH 1314

Test 2 Review

10 Multiple Choice Questions: Test 2 (60 points) 4 Free Response Questions: Test 2 FR (40 points) Example 1: The length of a rectangle is twice its width. If the perimeter of the rectangle is 180 feet, find the dimensions of the rectangle.

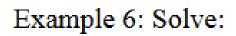
Example 2: Solve the following system of equations for y: 4x + y = 476x - 2y = -10 Example 3: State all solutions to the equation:

 $x^2 + 40 = 0$

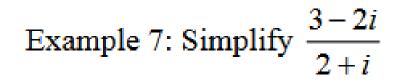
Example 4: Solve the following equation:

$$x^2 + 5x - 7 = 0$$

Example 5: Solve the following by completing the square: $x^2 - 8x + 20 = 0$



 $\frac{3}{10x} - \frac{1}{6x} = 1$



Example 8: Simplify A. (5-4i)(-1-2i)

B. (2-3i) - (-1+5i)

Example 9: Solve the following inequality and express your answer in interval notation.

 $-2 < 3 - 4x \le 7$

Example 10: Solve the following inequality and express your answer in interval notation.

$$|7x+8|-4<-3$$

Example 11: Find the solution of the equation $2+3|4x-1| \ge 14$.

Example 12: Find all solutions to the equation: |3-2x|=6

Example 13: Tom has a drawer with dimes, nickels and pennies in it. He has an equal number of each kind of coin. Tom counted his money and found that he has a total of \$2.40 in the drawer. How many nickels does Tom have?

Example 14: Solve the following for x: $x^6 - 9x^3 - 36 = 0$

Example 15: Solve the following for x: $\sqrt{x+5} - x = 5$

Example 17: Solve the following for x: $\frac{(x-8)(x+4)}{x-3} \le 0$

Example 18: Solve the following inequality: $2x^2 + 5x - 3 \le x^2 - 2x - 15$