Honors Math 3 – Unit 2 Remediation Sheet **Name _____**

Show All work!

1) Simplify and Classify by degree and number of terms. A. $(-8d^3 - 7) - (-d^3 - d^2 - 6)$ B. $x(x-3) - 2x(x-3)$	2)Write a polynomial function in **standard form** with the roots $0, \frac{-2}{5}, 3$
3) Solve to find all the roots. $x^3 - 64 = 0$	4) Solve to find all the roots. $8x^3 - 1 = 0$
5) Divide using synthetic division. $(x^4 - 6x^2 - 27) \div (x + 2)$	6) Divide using long division. $(7x^3 + 11x^2 + 7x + 5) \div (x^2 + 1)$

7) Solve to find all zeros. $f(x)x^3 - 6x^2 + 4x + 16$	8) Solve to find all zeros. $f(x) = x^3 - 9x^2 + 28x - 30$
9) You want to make an open top box from cardboard. The original cardboard is 20 X 30. Find the maximum volume and the length of the cut. Round to the nearest hundredth.	10) Is $(x - 3)$ a factor of $x^3 - 4x^2 + x + 6 = 0$? If so, find the remaining factors.
11) Solve: $x^4 - 12x^2 - 64 = 0$	12) Solve: $x^4 - x^2 - 72 = 0$
13) Find the discriminant and describe the roots of $3x^2 + 2x - 8 = 0$ $x^2 - 2x = -7$	14) Solve by completing the square $x^2 - 6x - 15 = 0$
