

1. Rewrite the polynomial in vertex and factored form.  $y = 12x^2 + 5x - 2$ . Find the roots.
2. Factor  $x^4 - 2x^3 + 8x - 16$ . List all roots.
3. Write the polynomial in vertex form that has a root at  $3 - 5i$  and goes through the point  $(7, 410)$ .
4. Find the exact zeros of  $y = x^2 - 8x + 9$
5. A 4<sup>th</sup> degree polynomial with a scale factor of 1 has roots at -2, -1, 3, and 4. Write the polynomial in general form. (*bonus*...What if I gave you the general form equation first and asked you to factor it...could you do it? How?)

[ps...these questions are similar to the questions on the test. let this be an indication of how well you know the material. and if you don't....let's do something about it before the test!]