# 10/20 Notes

PC

## 2.4 ex 1-3

**possible zeros**

- solving for zeros when you can't just factor the polynomial
- always involves ±

**formula** $\dfrac{\text{factors of the \# w/o an } x}{\text{factors of leading coefficient}}$

**ex** $2x^5 - 3x^4 + 10x - 20$

$$\frac{\text{factors of } -20}{\text{factors of } 2} = \frac{\pm 1, \pm 2, \pm 4, \pm 5, \pm 10, \pm 20}{\pm 1, \pm 2}$$

* consider these like a bunch of little division problems

$$= \pm 1, \pm 2, \pm 4, \pm 5, \pm 10, \pm 20, \pm \frac{1}{2}, \pm \frac{5}{2}, \text{etc}$$

These are all the possible zeros

Now you would use the possible zeros & synthetic substitution to find the real zeros.

→ when you test the possible zeros the remainder will be 0 if they are zeros.

## common mistakes to be aware of

- make sure you find ALL the zeros & put in the form $x =$
- some numbers can be double or triple zeros
- goal is to get down to $x^2$ form so you can factor.