

Math 172 – Section 5.7: Factoring Strategy

Strategy for factoring polynomials:

(similar to box, page 353 of text)

1. Greatest common factor

2. If it's a binomial, look for:

- difference of squares: $a^2 - b^2 = (a - b)(a + b)$
- sum of cubes: $a^3 + b^3 = (a + b)(a^2 - ab + b^2)$
- difference of cubes: $a^3 - b^3 = (a - b)(a^2 + ab + b^2)$

note: $a^2 + b^2$ is prime

3. If it's a trinomial, look for perfect squares:

- $(a + b)^2 = a^2 + 2ab + b^2$
- $(a - b)^2 = a^2 - 2ab + b^2$

note: if you don't see the pattern, you can always just ac the trinomial

4. If it's a trinomial, ac it.

note: if the ac method fails, then the trinomial is prime

5. If it's got four terms, try factoring by grouping.