Alg 2
Ch 6
Sec 6.4 Day 1

Learning Target: I can factor the sum or difference of 2 cubes

$(a^3+b^3) = (a+b)(a^2-ab+b^2)$ } Most Memorize!
$(a^3-b^3) = (a-b)(a^2+ab+b^2)$ }

To factor a sum or difference of 2 cubes:

1. Rewrite as 2 quantities cubed
2. Fill in $a=$, $b=$; $ab=$
   $a^2=$ $b^2=$
3. Plug into appropriate model (above)

Ex 1

Factor x^3+27

1. x^3+3^3
2. $a=x$ $b=3$ $ab=3x$
   $a^2=x^2$ $b^2=9$
3. sum, so $x^3+27=(x+3)(x^2-3x+9)$

Ex 2

Factor $125x^3-216$

1. $(5x)^3-(6)^3$
2. $a=5x$ $b=6$ $ab=30x$
   $a^2=25x^2$ $b^2=36$
3. diff, so $125x^3-216=(5x-6)(25x^2+30x+36$

HW

p. 330 12-20 Factor each. DO NOT SOLVE!