I. Factoring:

To "factor" an expression completely means to write it as a product of its (prime*) factors...

e.g., $\mathbf{30 = 2 \cdot 3 \cdot 5}$ *or* $\mathbf{6x + 12 = 6(x + 2)}$

*see section 1.6 (p.59)

II. Greatest Common Factor (p.385):

1. Definition: A common factor is a factor common to ***every*** term in the expression...
2. $\mathbf{a}b + \mathbf{a}c - \mathbf{a}d = \mathbf{a}(b + c - d)$

   i.e., the ***Distributive Property*** (but applied in reverse fashion)
3. Examples (p.390): Problems #2,4,8,10,16,22

IV. Group Factoring (p.388):

1. Examples (p.391): Problems #64,66
2. Not covered on any quiz/exam...
   i.e., Problems #43-56 (pp.390-391) will not be covered

HW: p.390 / Problems #1,3,7,9,11,15,19,21,29,33, 63,65

Read pp.395-398 (section 6.2)

I. Factoring Trinomials, Part 1:

1. $(x + m)(x + n) = x^2 + x \cdot n + m \cdot x + m \cdot n$

$$= x^2 + nx + mx + mn$$
$$= x^2 + (n + m)x + mn$$
$$= x^2 + (m + n)x + mn$$
$$= x^2 + bx + c$$

provided: $b = m + n$ & $c = m \cdot n$

2. Find two numbers, m & n whose sum is "b" and whose product is "c."

3. Factor $x^2 + 5x + 4$ as $(x + m)(x + n)$

need $m + n = 5$ & $4 = m \cdot n$

i.e., $m = 1$ & $n = 4$

$$\therefore\ x^2 + 5x + 4 = (x + 1)(x + 4)$$

II. Examples (p.399): Problems #2-26(even),42,62

HW: p.399 / Exercises #1-25(every other odd),41,45, 47,61,63

Read pp.395-398 (section 6.2)