Math 10 unit 3.3: Removing Common Factors

A) What is 'factoring polynomials'?
-opposite of multiplying polynomials.

Before: $(x+1)(x+2)=$

$2x(3x+5)=$

Now: $6x^2+10x =(\quad)(\quad)$?

B) How to factor by removing common factors?
-depending on the questions, there are 3 possible strategies:

i) GCF method
Ex: factor $6x^2+10x$

Step 1: look for GCF of coefficients 6 and 10:
Step 2: variables x^2 x:

So GCF is:

Therefore:

Ex: $5x+10=$

$8x^3-6x^2y^2+2x^2y=$

Try: $5x+25=$

$5x^2+25x-10=$

ii) binomial common factors

ex: $4x(y+2)-3y(y+2)$

ex: $x(x+2)+4(x+2)$

Try: $x(x+3)-5(x+3)=$

$3y^2(x+6y)+2x(x+6y)=$

iii) factor by grouping

-there isn't a common factor every term in the polynomials

Ex: ac+bc+ad+bd : note that there is NOT a common factor for all 4 terms. We group the terms that DO have common factor.

Ex: xy+12+4x+3y

Ex: $x^2+xy-3x-3y$

Try: $x^2-5x+xy-5y$ x2+5x-xy-5y

Do: pg 134 #2-6 left column, 10