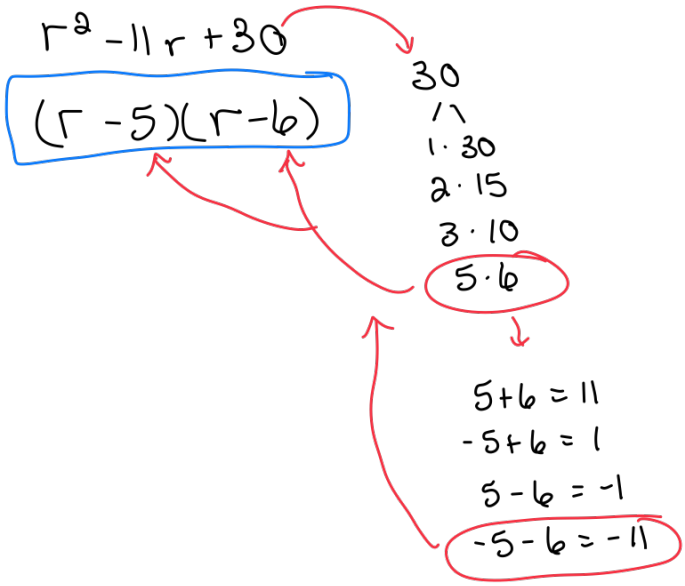
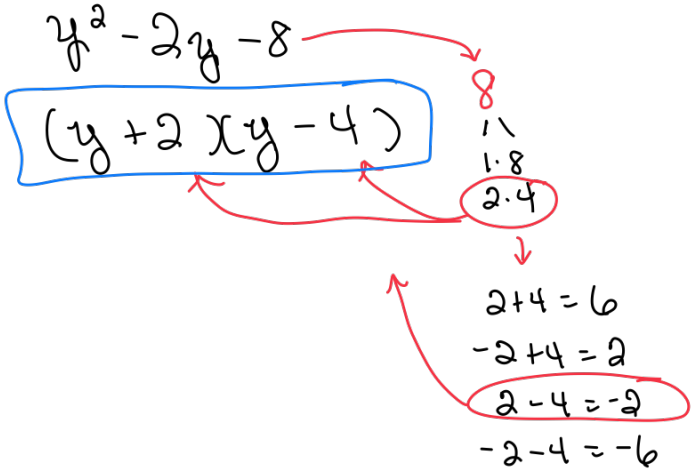
Intro to College Math: Chapter 6.2
Factoring Trinomials

1. Factor the following trinomial. $r^2 - 11r + 30$



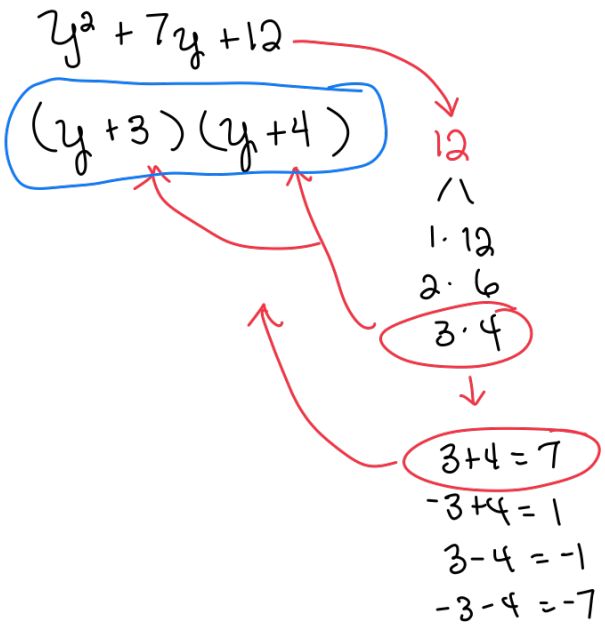
* To factor
① Make 2 sets of ( )( ).
② Write down the variable in each one
③ Write down the last number to the side, and list all the sets of numbers that multiply to get the last number.
④ Decide which pair can add or subtract to get the middle number
⑤ Write those numbers in your ( )( ) and decide what the signs should be.

2. Factor the following trinomial. $y^2 - 2y - 8$



To factor:.
* Make 2 sets of ( ) ( ).
* Write down the variable in each one. (here it is a y)
* Write down the last number to the side, and then list all the sets of numbers that multiply together to get that number.
* Decide which pair can add or subtract to get the middle number.
* Write those numbers in your parenthesis and then decide what the signs should be.

3. Factor the following trinomial. $y^2+7y+12$



To factor:.
* Make 2 sets of ( ) ( ).
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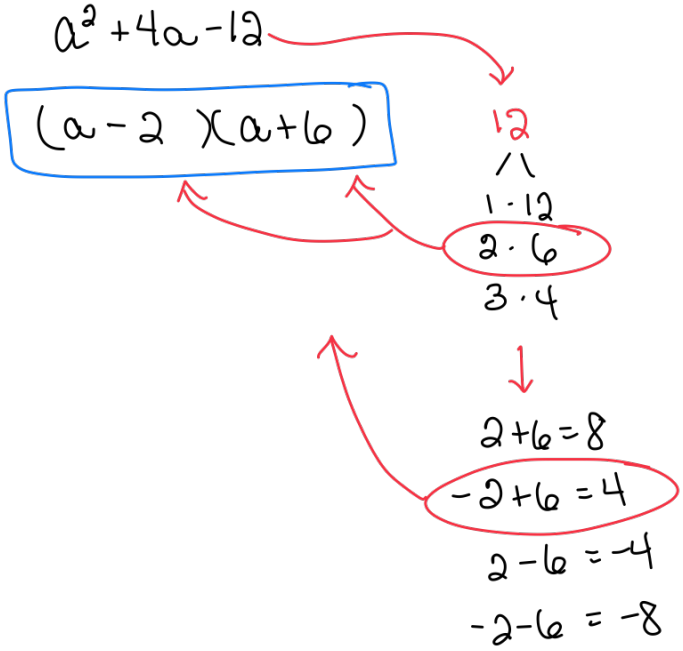
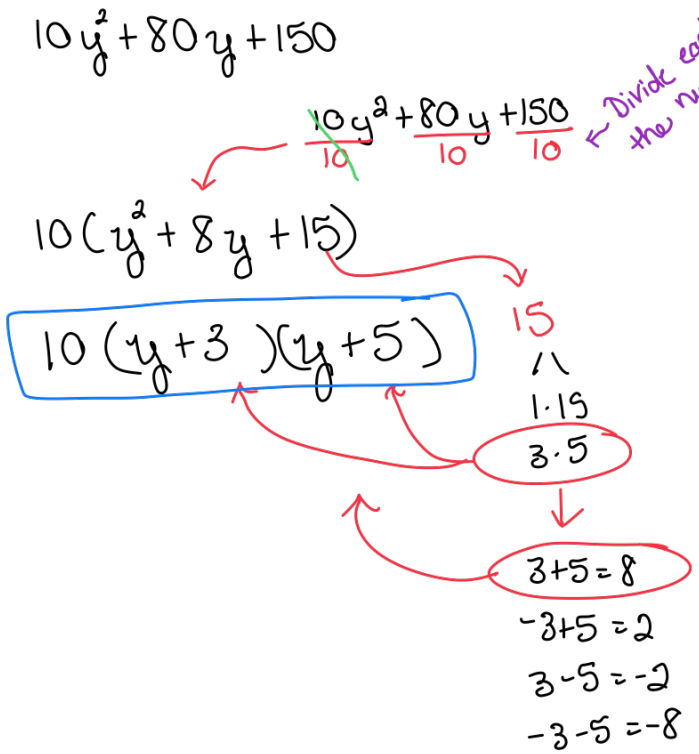
* Write down the last number to the side, and then list all the sets of numbers that multiply together to get that number.
* Decide which pair can add or subtract to get the middle number.
* Write those numbers in your parenthesis and then decide what the signs should be.

4. Factor the following trinomial. $a^2+4a-12$



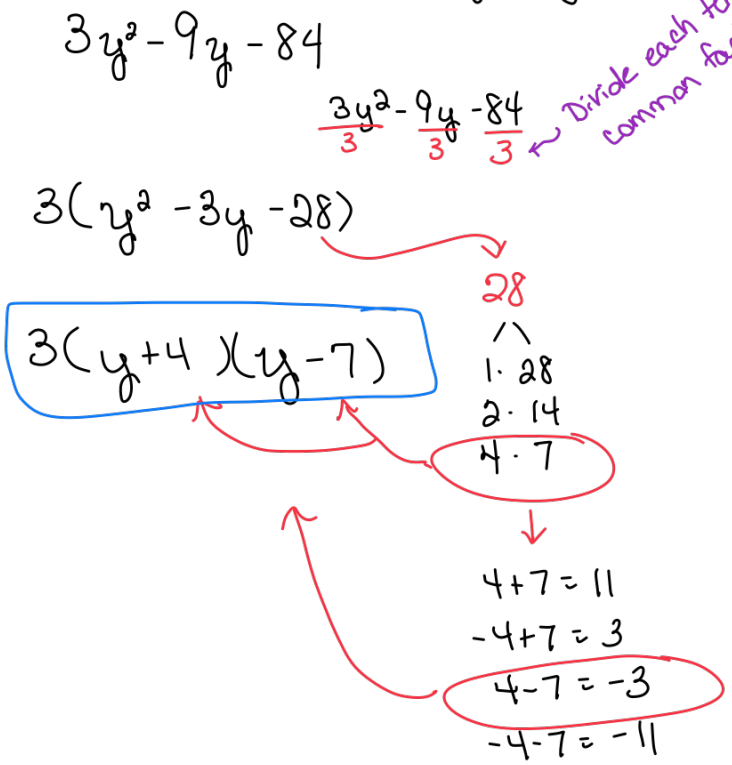
To factor:.
* Make 2 sets of ( ) ( ).
* Write down the variable in each one. (here it is a y)
* Write down the last number to the side, and then list all the sets of numbers that multiply together to get that number.
* Decide which pair can add or subtract to get the middle number.
* Write those numbers in your parenthesis and then decide what the signs should be.

5. Factor the following trinomial. $10y^2+80y+150$



To factor:
* Factor out what all the terms have in common first.
* Then make a set of ( ) and write down what's left over inside them.
* Then make 2 sets of ( ) ( ).
* Write down the variable in each one. (here it is a y)
* Write down the last number to the side, and then list all the sets of numbers that multiply together to get that number.
* Decide which pair can add or subtract to get the middle number.
* Write those numbers in your parenthesis and then decide what the signs should be.

6. Factor the following trinomial. $3y^2-9y-84$



To factor:
* Factor out what all the terms have in common first.
* Then make a set of ( ) and write down what's left over inside them.
* Then make 2 sets of ( ) ( ).
* Write down the variable in each one. (here it is a y)
* Write down the last number to the side, and then list all the sets of numbers that multiply together to get that number.
* Decide which pair can add or subtract to get the middle number.
* Write those numbers in your parenthesis and then decide what the signs should be.