**NOTES – Chapter 8 – Factor ax^2 + bx + c**

Factoring Polynomials

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| Note: Before you start to factor, always check if you can factor anything out. |

Example 1) Factor when b is negative and c is positive.

Factor: 2x^2 – 7x + 3

You need to find two numbers that multiply to ac (2\*3= 6) and add to b (-7).

1. Make a box.

 X -3

|  |  |  |
| --- | --- | --- |
|  2x |  2x^2 |  -6x |
|  -1 |  -1x |  3 |

2. Rewrite middle term so it is terms of the factors. (-6 and -1)

3. Factor out a monomial from each set. If the leading number is negative, take a negative.

 X, -3, 2x, -1

4. Write you answer.

**(2x – 1) (x-3)**

Example 2) Factor when b is positive and c is negative.

3x^2 + 14x – 5

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|  |  |
|  |  |

Follow the same procedure as above …..