Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_

Class/Home worksheet: Alg2H

Factoring (book chapter 5, page 519 and beyond)

|  |  |
| --- | --- |
| Factoring is the reverse of multiplying.  Factoring an expression means to write it as an equivalent expression that is a product. | |
| Common factor: | Common factor: |
| Common factor: | Common factor: |
| Common factor: | Common factor: |
| Take a common factor if possible.  It will simplify things! | |

|  |  |
| --- | --- |
| Difference of Squares (P. 221) | |
| Factor: | Factor: |
| Factor: | Factor (challenge): |
| Perfect Squares (P. 220) | |
| Factor: | Factor: |
| Factor (hint: rearrange) : | Factor: |

Factoring trinomials MATH style

(The common method in Kehillah school!)

Assume a trinomial of the form

Create the following table following the directions below it:

|  |  |  |  |
| --- | --- | --- | --- |
| M | A | T | H |
|  |  | Try the various factors of  that sum up to b | ☺ |

1. Put under M (Multiply) the product
2. Put under A (Add) the value of
3. Under T (Tries), put the various factor-pairs of the result in M, and try to see if their sum adds up to A.
4. When you find an appropriate pair, mark a smiley face in H (Happy) !
5. Rewrite the trinomial, by writing the middle term as the sum of two terms, and factor by grouping appropriate terms.

Examples:

|  |  |  |  |
| --- | --- | --- | --- |
| M | A | T | H |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| M | A | T | H |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| M | A | T | H |
|  |  |  |  |

Let's try in the case of binomial (though we know the answer already!)

|  |  |  |  |
| --- | --- | --- | --- |
| M | A | T | H |
|  |  |  |  |

|  |  |  |  |
| --- | --- | --- | --- |
| M | A | T | H |
|  |  |  |  |

From the book, Page 223

|  |  |
| --- | --- |
| (30) | (38) |
| (46) (tricky: Don't stop in the middle) | Factor: |
| Factor: | Factor: |

Two more items for factoring: Grouping and Cubes