Unit 1: Polynomials and Factoring Quadratics

**By the end of the unit students will be able to:**

1) Factor quadratic binomial, trinomial, and polynomials of 4 terms.

2) Solve quadratic equations by factoring.

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| **Day** | **Date** | **Lesson** | **Assignment** |
| 1 | Mon.  Aug. 28th | Introductions and Expectations  Adding/Subtracting Polynomials | Complete Calculator Agreement/Honor Code Forms |
| 2 | Tues. Aug. 29th | Multiplying Polynomials | Homework 1-2 |
| 3 | Wed. Aug. 30th | Intro to Factoring: GCF, X-Box | Homework 1-3 |
| 4 | Thurs. Aug. 31st | More Factoring: Difference of Squares | Homework 1-4 |
| 5 | Fri.  Sep. 1st | **Review and Quiz** | NO HOMEWORK |
| 6 | Mon.  Sep. 4th | Labor Day  No School ☺ | NO HOMEWORK |
| 7 | Tues.  Sep. 5th | Solve by Factoring | Homework 1-5 |
| 8 | Wed.  Sep. 6th | Solve by Factoring Practice | Finish Worksheet |
| 9 | Thurs.  Sep. 7th | Review for Unit 1 Test | Review for Test |
| 10 | Fri.  Sep. 8th | Test | NO HOMEWORK |

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class: \_\_\_\_\_\_\_\_\_**

**Math 2 - Unit 1 Notes and Homework Packet**

**Day 1: Adding and Subtracting Polynomials**

**Polynomial: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**When adding and subtracting polynomials, \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

Example: = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. 2.

3. 4.

5.

**Let’s step it up a notch!**

Example: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. 7.

8. 9.

10.

**Day 2: Multiplying Polynomials**

**When multiplying polynomials, use the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.**

**Multiply the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**If any terms have the same variables, \_\_\_\_\_\_\_\_\_\_\_\_\_\_ the exponents.**

Example: **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. 2.

3. 4.

5. 6.

**Let’s step it up a notch!**

Example: = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. 8.

9. 10.

11. 12.

**Homework 1.2**

**Multiply the following polynomials.**

1. 2. 3.

4. 5. 6.

7. 8.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Day 3: Intro to Factoring**

**GCF - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ -** Factor out what the terms have in common

Factor out the GCF and write what is left over.

1. 2. 3.

4. 5. 6.

**Factoring by using the X-Box (leading coefficient = 1)** – Use when factoring a trinomial (\_\_\_\_ terms)

1. 2.
2. 4.
3. 6.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Homework 1.3**

**Factor out the GCF and write what is left over**

1. 2. 3.

**Factor using the X-Box**

1. 5. 6.
2. 8. 9.

**Day 4: Factoring with a leading coefficient ≠ 1 and difference of squares**

**Review from yesterday: Factoring with a leading coefficient = 1**

1. 2.

\* When factoring a trinomial with a leading coefficient ≠ 1, make sure you\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ the first and last coefficients.

1. 4.
2. 6.

**Difference of Squares**

**\*TRICK** – take the square root of both terms and separate them into different binomials (one + and one -)

1. 8. 9.

**Homework 1.4**

1. 2. 3.
2. 5. 6.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Day 5: Solve equations by factoring**

**Review: factoring with and without a leading coefficient of 1**

1. 2.

**Solving Equations by Factoring**

1. 🡪 We already know that the factors are \_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_

so \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = 0, which means that \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = 0 and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = 0.

So, the answers are x = \_\_\_\_\_\_\_\_\_\_\_\_\_ and x = \_\_\_\_\_\_\_\_\_\_\_\_\_.

1. 3.
2. 5.

6. 7.

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Homework 1.5**

**Solve each equation**

1. 2. 3.
2. 5. 6.