

Warm Up: Adding, Subtracting, and Multiplying Polynomials

1. $x^2 + 4 + (x^3 + 2x - 2) =$ _____

2. $x - 2 + (x^2 + 3x + 2) =$ _____

3. $x + 4 - (x + 2) =$ _____

4. $(x^2 - 2x + 3) - (x + 3) =$ _____

5. $(x + 3)(x^2 + 4) =$ _____

6. $(x^2 + 2x + 1)(x + 4) =$ _____

Type 1: Adding and Subtracting with Like Denominators**Review Examples:**

1. $\frac{4}{2} + \frac{3}{2} =$

2. $\frac{2}{5} - \frac{4}{5} =$

Problems:

3. $\frac{3}{x} + \frac{5}{x} =$

4. $\frac{x+2}{x^2+1} + \frac{3+x}{x^2+1} =$

5. $\frac{4x^2}{x-2} + \frac{x-5}{x-2} =$

6. $\frac{x+1}{x+1} - \frac{3}{x+1} =$

7. $\frac{x+2}{x^2-2} - \frac{x+4}{x^2-2} =$

Type 2: Adding and Subtracting with Un-Like Denominators

Review Examples:

$$1. \frac{2}{3} + \frac{1}{4} =$$

$$2. \frac{5}{6} - \frac{4}{9} =$$

$$3. \frac{3}{24} + \frac{5}{16} =$$

Practice:

$$4. \frac{4}{x} + \frac{5}{y} =$$

$$5. \frac{3x+1}{2x} + \frac{5}{2} =$$

$$6. \frac{2}{3x+2} - \frac{3}{2x} =$$

$$7. \frac{5}{x-1} + \frac{6}{x^2-1} =$$

$$8. \frac{3}{x+4} - \frac{x+2}{4} =$$

$$9. \frac{4}{x^2-1} + \frac{5}{x(x+1)} =$$

$$10. \frac{x}{x^2+x-6} - \frac{1}{x+2} =$$