

• **Adding Rational Expressions**

Recall how to add rational expressions with common denominators

$$1. \frac{3}{10} + \frac{6}{10}$$

$$2. \frac{23+x}{x} + \frac{2x+7}{x}$$

$$3. \frac{4x+3}{y} + \frac{3(x-7)}{y}$$

$$4. \frac{2y-5}{xyz} - \frac{y^2-3y+2}{xyz}$$

Adding/Subtracting Rational Expressions

- If denominators are the same, _____
_____.
- When subtracting, _____
_____.
- Don't forget _____.

Recall what to do if the denominators are NOT the same.

$$5. \frac{3}{20} - \frac{4}{15}$$

$$6. \frac{a+b}{4} + \frac{2a-b}{5}$$

7. $\frac{4}{3x} - \frac{3}{5x^2}$

8. $\frac{3}{a+2} + \frac{4}{a-5}$

9. $\frac{5}{x-2} + \frac{3x}{4x-8}$

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

Steps for Adding/Subtracting Rational Expressions

1.

2.

3.

4.

5.

6.

Practice:

1. $\frac{12}{7d} + \frac{3}{14d}$

2. $\frac{2x+1}{4x^2} - \frac{x+3}{6x}$

3. $\frac{7x}{12xy^2} + \frac{4y}{6x^2y}$

4. $\frac{5}{x} - \frac{3}{x+5}$

5. $\frac{4}{a-3} + \frac{9}{a-5}$

6. $\frac{16}{x^2-16} + \frac{2}{x+4}$

$$7. \frac{3x}{x-2} + \frac{4x}{2-x}$$

$$8. 1 + \frac{4}{3x} - \frac{2}{6y}$$

$$9. \frac{\frac{1}{a} - \frac{1}{2a}}{\frac{4}{a}}$$

$$10. \frac{b^2+1}{b^2-4} + \frac{1}{b+2} + \frac{1}{b-2}$$