

Name: _____

Adding and Subtracting Rational Expressions

Exercise 1: Perform the following operations. All results should be in simplified form.

1)
$$\frac{3x+2}{5x-20} - \frac{2x+6}{5x-20}$$

2)
$$\frac{x+8}{x+5} + \frac{x+7}{x+5}$$

3)
$$\frac{x-3}{x-1} - \frac{4x-6}{x-1}$$

4)
$$\frac{2x+3}{4x-3} + \frac{10x-9}{4x-3}$$

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

6)
$$\frac{x}{5-x} - \frac{2-x}{x-5}$$

Exercise 2: Perform the following operations. All results should be in simplified form.

1)
$$\frac{2x}{5} + \frac{3y}{7}$$

2)
$$\frac{4a}{5} - \frac{2b}{3}$$

3)
$$\frac{3}{4a} - \frac{2}{9b}$$

4)
$$\frac{7}{2c} + \frac{5}{3c}$$

5)
$$\frac{7}{x^2y^2} + \frac{2}{xy^5}$$

6)
$$\frac{3}{a^4b^7} - \frac{2}{a^5b^4}$$

7)
$$\frac{2}{x-1} + \frac{3}{x-5}$$

8)
$$\frac{3}{x} + \frac{8}{x+1}$$

9)
$$\frac{5}{x+4} + \frac{6}{x+7}$$

10)
$$\frac{-5}{x} + \frac{2}{x-4}$$

11)
$$\frac{3}{x+1} - \frac{4}{x+2}$$

12)
$$\frac{6}{x-3} - \frac{2}{x+7}$$

13)
$$\frac{7}{x+9} - \frac{4}{x-2}$$

14)
$$\frac{1}{x-2} - \frac{2}{x+2}$$

15) $3 - \frac{2}{x+5}$	16) $4 + \frac{5}{x-7}$
17) $\frac{6}{x-3} - 4$	18) $\frac{x-3}{x+3} - \frac{1}{x-3}$
19) $\frac{x-2}{x} - \frac{3}{x+2}$	20) $\frac{x+4}{x+1} + \frac{2}{x-3}$
21) $\frac{x-1}{x+1} + \frac{1}{2x+1}$	22) $\frac{x}{x+3} + \frac{4}{x-5}$
23) $\frac{7}{x-2} + 2$	24) $\frac{2x-3}{x} + \frac{6}{x+1}$
25) $\frac{x-3}{x+2} + \frac{x+1}{x-4}$	26) $\frac{x+1}{x-3} + \frac{x-2}{x-1}$
27) $\frac{x+5}{x+4} - \frac{x-2}{x-3}$	28) $\frac{x-4}{x+1} - \frac{x-2}{x-1}$
29) $\frac{5}{12x-6} - \frac{2}{10x+40}$	30) $\frac{7}{8x+12} + \frac{5}{6x-6}$
31) $\frac{3}{x} - \frac{8}{x-1} + \frac{6}{x+2}$	32) $5 - \frac{4x^2+3}{x^2-2x-8}$
33) $\frac{2}{x+3} - \frac{4}{x-2} + \frac{3}{x}$	34) $\frac{3x^2+5x}{x^2-3x-4} - 2$
35) $\frac{x}{x^2+2x-8} - \frac{2}{x^2-2x} + \frac{5}{x^2+4x}$	36) $\frac{x}{x^2+3x-18} + \frac{1}{x^2+6x} - \frac{1}{x^2-3x}$
37) $\frac{x}{x^2+10x+24} + \frac{4}{x^2+12x+32} - \frac{2}{x^2+14x+48}$	
38) $\frac{x}{x^2-7x+12} - \frac{2}{x^2-4x+3} + \frac{3}{x^2-5x+4}$	