

## Math 0408

### Add and subtract rational expressions

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

$$2) \frac{10x+9}{x-2} - \frac{9x+7}{x-2} =$$

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

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

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

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

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

$$8) \frac{x+5}{x^2} + \frac{x-1}{3x} =$$

$$9) \frac{2x-3}{2xy} + \frac{4-x}{3x^2y} =$$

$$10) \frac{x+2}{x^2y} - \frac{4x-1}{xy} =$$

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

$$12) \frac{5}{x+3} + \frac{2}{x-3} =$$

$$13) \frac{2x}{x+5} - \frac{3}{2x-1} =$$

$$14) \frac{x}{x^2-x-20} + \frac{3}{x-5} =$$

$$15) \frac{x}{x^2-16} + \frac{2}{x+4} =$$

$$16) \frac{2}{4x+16} - \frac{1}{x^2-16} =$$

$$17) \frac{3x}{4x-2} + \frac{5}{6x-3} =$$

$$18) \frac{3}{x-5} + \frac{x}{5-x} =$$

$$19) \frac{x-1}{x^2-2x-15} + \frac{2}{x^2+8x+15} =$$

$$20) \frac{1}{x+2} + \frac{x}{x-3} - \frac{15}{x^2-x-6} =$$

**Solutions:**

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

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

3)  $\frac{1}{x+2}$

4)  $\frac{x+14}{3x}$

5)  $\frac{12x-1}{10x}$

6)  $\frac{6x^2+x-1}{3x} = \frac{(2x+1)(3x-1)}{3x}$

7)  $\frac{2x^2+6x-1}{x+3}$

8)  $\frac{x^2+2x+15}{3x^2}$

9)  $\frac{6x^2-11x+8}{6x^2y}$

10)  $\frac{-4x^2+2x+2}{x^2y} = \frac{-2(2x+1)(x-1)}{x^2y}$

$$11) \frac{5x+1}{(x-1)(x+2)}$$

$$12) \frac{7x-9}{(x+3)(x-3)}$$

$$13) \frac{4x^2 - 5x - 15}{(x+5)(2x-1)}$$

$$14) \frac{4(x+3)}{(x-5)(x+4)}$$

$$15) \frac{3x-8}{(x+4)(x-4)}$$

$$16) \frac{x-6}{2(x+4)(x-4)}$$

$$17) \frac{9x+10}{6(2x-1)}$$

$$18) \frac{3-x}{x-5}$$

$$19) \frac{x^2 + 6x - 15}{(x-5)(x+5)(x+3)}$$

$$20) \frac{x+6}{x+2}$$