

Adding + Subtracting Rational Expressions

Simplify each expression.

1) $\frac{u + 5v}{8v^2u^2} - \frac{u - 6v}{8v^2u^2}$

2) $\frac{5n}{30m} + \frac{2m + 4n}{30m}$

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

4) $\frac{x + y}{18xy} - \frac{6x + y}{18xy}$

5) $\frac{4a - 5}{6a^2 + 30a} + \frac{a - 1}{6a^2 + 30a}$

6) $\frac{5x - 4}{9x^3 + 27x^2} - \frac{x + 6}{9x^3 + 27x^2}$

7) $\frac{b - 3}{12b + 18} + \frac{4b}{12b + 18}$

8) $\frac{n - 4}{n^2 - n - 20} + \frac{n + 1}{n^2 - n - 20}$

9) $\frac{7x}{2x} - \frac{x - 2}{20x + 16}$

10) $\frac{8}{7v - 6} + \frac{4}{3v^2}$

11) $\frac{7v}{8} - \frac{8v - 4}{5v - 2}$

12) $\frac{4}{n + 7} - \frac{7}{n - 2}$

$$13) \frac{7}{3n^2 + 24n} - \frac{7}{2n}$$

$$14) \frac{6}{v-2} - \frac{7}{2v+7}$$

$$15) \frac{6x}{3} + \frac{7}{15x+3}$$

$$16) \frac{5v}{v-3} + \frac{5}{v+6}$$

$$17) \frac{4x}{x^2 + 4x - 5} - \frac{5}{4}$$

$$18) \frac{2}{x+3} - \frac{6x}{2x+1}$$

$$19) \frac{4x}{x+3} - \frac{4x}{x+6}$$

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

$$21) \frac{6}{x-2} + \frac{6}{x+1}$$

$$22) \frac{v-2}{3v^4 - 15v^3 - 18v^2} + 3v$$

Adding + Subtracting Rational Expressions

Simplify each expression.

1) $\frac{u+5v}{8v^2u^2} - \frac{u-6v}{8v^2u^2}$

$$\frac{11}{8vu^2}$$

2) $\frac{5n}{30m} + \frac{2m+4n}{30m}$

$$\frac{9n+2m}{30m}$$

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

$$\frac{-2a-b}{3a^3}$$

4) $\frac{x+y}{18xy} - \frac{6x+y}{18xy}$

$$-\frac{5}{18y}$$

5) $\frac{4a-5}{6a^2+30a} + \frac{a-1}{6a^2+30a}$

$$\frac{5a-6}{6a^2+30a}$$

6) $\frac{5x-4}{9x^3+27x^2} - \frac{x+6}{9x^3+27x^2}$

$$\frac{4x-10}{9x^3+27x^2}$$

7) $\frac{b-3}{12b+18} + \frac{4b}{12b+18}$

$$\frac{5b-3}{12b+18}$$

8) $\frac{n-4}{n^2-n-20} + \frac{n+1}{n^2-n-20}$

$$\frac{2n-3}{n^2-n-20}$$

9) $\frac{7x}{2x} - \frac{x-2}{20x+16}$

$$\frac{69x+58}{4(5x+4)}$$

10) $\frac{8}{7v-6} + \frac{4}{3v^2}$

$$\frac{24v^2+28v-24}{3v^2(7v-6)}$$

11) $\frac{7v}{8} - \frac{8v-4}{5v-2}$

$$\frac{35v^2-78v+32}{8(5v-2)}$$

12) $\frac{4}{n+7} - \frac{7}{n-2}$

$$\frac{-3n-57}{(n+7)(n-2)}$$

$$13) \frac{7}{3n^2 + 24n} - \frac{7}{2n}$$

$$\frac{-154 - 21n}{6n(n + 8)}$$

$$14) \frac{6}{v-2} - \frac{7}{2v+7}$$

$$\frac{5v + 56}{(2v + 7)(v - 2)}$$

$$15) \frac{6x}{3} + \frac{7}{15x+3}$$

$$\frac{30x^2 + 6x + 7}{3(5x + 1)}$$

$$16) \frac{5v}{v-3} + \frac{5}{v+6}$$

$$\frac{5v^2 + 35v - 15}{(v + 6)(v - 3)}$$

$$17) \frac{4x}{x^2 + 4x - 5} - \frac{5}{4}$$

$$\frac{-4x - 5x^2 + 25}{4(x + 5)(x - 1)}$$

$$18) \frac{2}{x+3} - \frac{6x}{2x+1}$$

$$\frac{-14x + 2 - 6x^2}{(2x + 1)(x + 3)}$$

$$19) \frac{4x}{x+3} - \frac{4x}{x+6}$$

$$\frac{12x}{(x + 3)(x + 6)}$$

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

$$\frac{2x^2 + 4x - 6}{3(x + 1)(x + 5)}$$

$$21) \frac{6}{x-2} + \frac{6}{x+1}$$

$$\frac{12x - 6}{(x + 1)(x - 2)}$$

$$22) \frac{v-2}{3v^4 - 15v^3 - 18v^2} + 3v$$

$$\frac{9v^5 - 45v^4 - 54v^3 + v - 2}{3v^2(v + 1)(v - 6)}$$