

Adding & Subtracting Rational Expressions

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Simplify each expression, state all restrictions.

$$1) \frac{x-5y}{12xy} + \frac{2x+3y}{12xy}$$

$$2) \frac{u+2v}{10uv} + \frac{u-4v}{10uv}$$

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

$$4) \frac{6}{18n^2+45n} + \frac{n-4}{18n^2+45n}$$

$$5) \frac{4r}{r+1} - \frac{5}{2r}$$

$$6) \frac{5}{m+3} - \frac{4m}{m+5}$$

$$7) \frac{6}{3x} + \frac{6}{2x+4}$$

$$8) \frac{5n}{2n^2+2n} - \frac{3}{3n}$$

$$9) \frac{3v}{v-5} - \frac{3v}{v-1}$$

$$10) \frac{5}{b+3} + \frac{6}{b+6}$$

$$11) \frac{x+5}{x+6} - \frac{x+2}{5x}$$

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

$$13) \frac{5a}{6a} - \frac{2}{5a^2+12a+4}$$

$$14) \frac{5k}{5k+2} + \frac{6}{k+4}$$

$$15) 3 + \frac{m+3}{m^2-m-6}$$

$$16) \frac{2}{6n^2+16n+8} - \frac{4}{4n}$$

$$17) \frac{3}{2} - \frac{4x}{9x^2-27x+18}$$

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

$$19) \frac{6}{x-4} - \frac{5}{x+3}$$

$$20) \frac{4p}{p^2-2p-3} + \frac{4p}{2p}$$

Answers to Adding & Subtracting Rational Expressions (ID: 1)

1) $\frac{3x - 2y}{12xy}$

5) $\frac{8r^2 - 5r - 5}{2r(r + 1)}$

9) $\frac{12v}{(v - 5)(v - 1)}$

13) $\frac{25a^2 + 60a + 8}{6(a + 2)(5a + 2)}$

17) $\frac{27x^2 - 89x + 54}{18(x - 2)(x - 1)}$

2) $\frac{u - v}{5uv}$

6) $\frac{-7m + 25 - 4m^2}{(m + 5)(m + 3)}$

10) $\frac{11b + 48}{(b + 6)(b + 3)}$

14) $\frac{5k^2 + 50k + 12}{(k + 4)(5k + 2)}$

18) $\frac{5r - 22}{(r - 6)(r - 2)}$

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

7) $\frac{5x + 4}{x(x + 2)}$

11) $\frac{4x^2 + 17x - 12}{5x(x + 6)}$

15) $\frac{3m^2 - 2m - 15}{(m - 3)(m + 2)}$

19) $\frac{x + 38}{(x - 4)(x + 3)}$

4) $\frac{2 + n}{18n^2 + 45n}$

8) $\frac{3n - 2}{2n(n + 1)}$

12) $\frac{-3x + 30}{(x - 2)(x + 6)}$

16) $\frac{-3n^2 - 7n - 4}{n(n + 2)(3n + 2)}$

20) $\frac{2p^2 - 6}{(p - 3)(p + 1)}$