

## Adding & Subtracting Rational Expressions

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**Simplify each expression.**

$$1) \frac{x-5y}{12y^4x^2} - \frac{x-4y}{12y^4x^2}$$

$$2) \frac{2n}{10n^4} - \frac{m+6n}{10n^4}$$

$$3) \frac{3m}{4m} - \frac{6m}{6n}$$

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

$$5) \frac{2n}{2n-3} + \frac{5}{6}$$

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

$$7) \frac{5}{p+4} - \frac{3}{3p+5}$$

$$8) \frac{2}{4} - \frac{6}{3k-2}$$

$$9) \frac{3}{4} - \frac{5n}{4n+2}$$

$$10) \frac{4}{2x+6} - \frac{3x}{2x}$$

$$11) \frac{5m-3}{m+6} - \frac{2m}{4}$$

$$12) \frac{5}{3r} + \frac{2r}{r+6}$$

$$13) \frac{4}{3} - \frac{4n}{2n+12}$$

$$14) \frac{2}{3x+5} - \frac{5x}{x-1}$$

$$15) \frac{5}{v-2} - \frac{3v}{v-3}$$

$$16) \frac{2}{b+4} - \frac{3b}{b-3}$$

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

$$18) \frac{6}{2n^2-6n} - \frac{2}{n+1}$$

$$19) \frac{4k}{k-1} + \frac{2k}{6k-30}$$

$$20) \frac{a-4}{4a^4+36a^3+72a^2} + 2$$

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

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

$$2) \frac{-4n - m}{10n^4}$$

$$3) \frac{3n - 4m}{4n}$$

$$4) \frac{25 + 6y^2x - 18y^3}{30y^2}$$

$$5) \frac{22n - 15}{6(2n - 3)}$$

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

$$7) \frac{12p + 13}{(p + 4)(3p + 5)}$$

$$8) \frac{3k - 14}{2(3k - 2)}$$

$$9) \frac{-4n + 3}{4(2n + 1)}$$

$$10) \frac{-5 - 3x}{2(x + 3)}$$

$$11) \frac{4m - 6 - m^2}{2(m + 6)}$$

$$12) \frac{5r + 30 + 6r^2}{3r(r + 6)}$$

$$13) \frac{-2n + 24}{3(n + 6)}$$

$$14) \frac{-23x - 2 - 15x^2}{(x - 1)(3x + 5)}$$

$$15) \frac{11v - 15 - 3v^2}{(v - 3)(v - 2)}$$

$$16) \frac{-10b - 6 - 3b^2}{(b - 3)(b + 4)}$$

$$17) \frac{-4x^2 + 22x + 24}{(x + 2)(5x + 4)}$$

$$18) \frac{9n + 3 - 2n^2}{n(n - 3)(n + 1)}$$

$$19) \frac{13k^2 - 61k}{3(k - 5)(k - 1)}$$

$$20) \frac{8a^4 + 72a^3 + 144a^2 + a - 4}{4a^2(a + 6)(a + 3)}$$