

Add or subtract, list restrictions, and then write an equivalent expression in reduced form.

$$1. \frac{3}{15x} + \frac{2}{15x}$$

$$\perp$$

$$3x$$

$$x \neq 0$$

$$2. \frac{5x}{7} + \frac{2x}{7}$$

$$x$$

$$3. \frac{4x}{2x+3} + \frac{6}{2x+3}$$

$$2$$

$$x \neq -\frac{3}{2}$$

$$4. \frac{x+2}{5x+9} + \frac{4x+7}{5x+9}$$

$$1$$

$$x \neq -\frac{9}{5}$$

$$5. \frac{5}{8a} - \frac{11}{8a}$$

$$-\frac{3}{4a}$$

$$a \neq 0$$

$$6. \frac{7x-1}{x-5} - \frac{8x-6}{x-5}$$

$$-1$$

$$x \neq 5$$

$$7. \frac{y}{y^2-9} + \frac{3}{y^2-9}$$

$$\frac{1}{(y-3)}$$

$$y \neq 3, -3$$

$$8. \frac{14x-2}{6x^2+x-15} + \frac{7x+37}{6x^2+x-15}$$

$$\frac{7}{(2x-3)}$$

$$x \neq -\frac{5}{3}, \frac{3}{2}$$

$$9. \frac{3-x}{x+1} + \frac{1+5x}{x+1}$$

$$4$$

$$x \neq -1$$

$$10. \frac{1-2x}{6x-8} - \frac{5-5x}{6x-8}$$

$$\frac{1}{2}$$

$$x \neq \frac{4}{3}$$

$$11. \frac{12x^2}{3x^2} - \frac{18x}{3x^2}$$

$$\frac{2(2x-3)}{x}$$

$$x \neq 0$$

$$12. \frac{7x+4}{x^2+3x+2} - \frac{3x-4}{x^2+3x+2}$$

$$\frac{4}{(x+1)}$$

$$x \neq -2, -1$$

Get common denominators, add or subtract, list restrictions, and then write an equivalent rational expression in reduced form.

$$1. \frac{4}{5x} - \frac{2}{10x}$$

$$\frac{3}{5x}$$

$$x \neq 0$$

$$2. \frac{10}{6x} - \frac{2}{3}$$

$$\frac{-2x+5}{3x} \quad \text{or} \quad \frac{5-2x}{3x}$$

$$x \neq 0$$

$$3. \frac{6}{5x} - \frac{6}{3x}$$

$$\frac{-4}{5x}$$

$$x \neq 0$$

$$4. \frac{16}{x^2-16} + \frac{2}{x+4}$$

$$\frac{2}{(x-4)}$$

$$x \neq -4, 4$$

$$5. \frac{4}{4x+12} + \frac{7}{x+3}$$

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

$$x \neq -3$$

$$6. \frac{6}{x+6} - \frac{4}{4x+24}$$

$$\frac{5}{(x+6)}$$

$$x \neq -6$$

$$7. \frac{6x+6}{x^2+6x+5} + \frac{4}{x+5}$$

$$\frac{10}{(x+5)}$$

$$x \neq -5, -1$$

$$8. \frac{3}{y+5} - \frac{2y+1}{y^2+7y+10}$$

$$\frac{1}{(y+2)}$$

$$y \neq -5, -2$$

$$9. \frac{x}{x-3} + \frac{2x+2}{x^2-2x-3}$$

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

$$x \neq -1, 3$$

$$10. \frac{2}{x-6} + \frac{2x+12}{x^2-36}$$

$$\frac{4}{(x-6)}$$

$$x \neq -6, 6$$

$$11. \frac{2}{x+2} - \frac{2}{2x}$$

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

$$x \neq 0, -2$$

$$12. \frac{12}{2x+6} + \frac{4}{6x+18}$$

$$\frac{20}{3(x+3)}$$

$$x \neq -3$$