

$$18. \frac{-9}{25x^2 - 1} + \frac{7}{1 - 25x^2}$$

$$\frac{-9}{25x^2 - 1} + \frac{-7}{25x^2 - 1}$$

$$\frac{-16}{25x^2 - 1}$$

$$20. \frac{7}{x^2} - \frac{5x \cdot x^2}{1 \cdot x^2}$$

$$\frac{7 - 5x^3}{x^2}$$

$$24. \frac{7}{2x-3} - \frac{3(2x-3)}{1(2x-3)}$$

$$\frac{7 - 3(2x-3)}{2x-3} = \frac{7 - 6x + 9}{2x-3}$$

$$\frac{16 - 6x}{2x-3}$$

$$30. \frac{5x}{6} + \frac{11x^2 \cdot 3}{2 \cdot 3} \quad \frac{5x + 33x^2}{6}$$

$$32. \frac{5x}{(x-2)^2} - \frac{3(x-2)}{(x-2)(x-2)}$$

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

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

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

$$36. \frac{6}{x} - \frac{1 \cdot x}{1 \cdot x}$$

$$\frac{6-x}{x}$$

$$40. \frac{10}{3n-4} - \frac{5(-1)}{(4-3n)(-1)}$$

$$\frac{10+5}{3n-4} = \frac{15}{3n-4}$$

$$42. \frac{5(x+5)}{(x+1)(x+5)} - \frac{2(x+1)}{(x+5)^2(x+1)}$$

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

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

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

$$44. \frac{x}{x^2 - 4} - \frac{5}{x^2 - 4x + 4}$$

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

$$\frac{x(x-2) - \cancel{5}(x+2)}{(x+2)(x-2)^2}$$

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

$$\frac{x^2 - 7x - 10}{(x+2)(x-2)^2}$$

$$50. \frac{-1}{a-2} + \frac{4}{4-2a} = \frac{-2(-1)}{-2(a-2)} + \frac{4}{2(2-a)}$$

$$\frac{2+4}{2(2-a)} = \frac{\cancel{2}^3}{\cancel{2}_1(2-a)} = \frac{3}{2-a}$$

$$54. \frac{-7}{y^2-3y+2} - \frac{2}{y-1} = \frac{-7}{(y-1)(y-2)} - \frac{2(y-2)}{(y-1)(y-2)}$$

$$\frac{-7-2(y-2)}{(y-1)(y-2)}$$

$$\frac{-7-2y+4}{(y-1)(y-2)}$$

$$\frac{-2y-3}{(y-1)(y-2)}$$

$$58. \frac{x+4}{x^2+12x+20} + \frac{x+1}{x^2+8x-20}$$

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

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

$$\frac{x^2+2x-8 + x^2+3x+2}{(x+10)(x+2)(x-2)}$$

$$\frac{2x^2+5x-6}{(x+10)(x+2)(x-2)}$$

## 7.8: Simplifying Complex Fractions

Ex: (492)

$$2. \frac{\frac{1}{8}}{-\frac{5}{12}}$$

$$8. \frac{\frac{3}{4} - \frac{1}{2}}{\frac{3}{8} + \frac{1}{6}}$$

$$12. \frac{\frac{7}{10} - \frac{3}{5}}{\frac{1}{2}}$$

$$18. \frac{\frac{x}{2} + 2}{\frac{x}{2} - 2}$$

$$22. \frac{x - \frac{1}{2x+1}}{1 - \frac{x}{2x+1}}$$

$$28. \frac{3}{1 - \frac{4}{3}}$$

$$30. \frac{\frac{m+2}{m-2}}{\frac{2m+4}{m^2-4}}$$

$$34. \frac{2 + \frac{6}{x}}{1 - \frac{9}{x^2}}$$

$$38. \frac{\frac{2}{x} + \frac{x}{2}}{\frac{2}{x} - \frac{x}{2}}$$

$$40. \frac{\frac{4}{x} + \frac{x}{x+1}}{\frac{1}{2x} + \frac{1}{x+6}}$$

