

Review Assignment

Mr. Ward Answer Key

pg 589

$$33. \frac{2}{x+4} + \frac{x}{x-3}$$

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

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

$$= \frac{x^2+6x-6}{(x-3)(x+4)} \quad \text{where } x \neq 3, -4$$

$$34. \frac{2x}{x^2-36} + \frac{x+4}{x+6}$$

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

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

$$\frac{2x}{(x+6)(x-6)} + \frac{x^2-2x-24}{(x+6)(x-6)}$$

$$= \frac{x^2-24}{(x+6)(x-6)} \quad \text{where } x \neq \pm 6$$

$$35. \frac{2}{x^2-x-20} + \frac{3}{x^2+7x+12}$$

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

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

$$\frac{2x+6}{(x+3)(x+4)(x-5)} + \frac{3x-15}{(x+3)(x+4)(x-5)}$$

$$= \frac{5x-9}{(x+3)(x+4)(x-5)} \quad \text{where } x \neq -3, -4, 5$$

$$36. \frac{7x}{x^2-5x} + \frac{x^2}{x-5}$$

$$\frac{\cancel{7x}}{\cancel{x}(x-5)} + \frac{x^2}{x-5}$$

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

$$= \frac{x^2+7}{x-5} \quad \text{where } x \neq 0, 5$$

$$* 37. \frac{2x}{x-1} - \frac{9}{x-2}$$

$$\frac{2x(x-2)}{(x-1)(x-2)} - \frac{9(x-1)}{(x-1)(x-2)}$$

$$\frac{2x^2-4x}{(x-1)(x-2)} - \frac{9x-9}{(x-1)(x-2)}$$

$$= \frac{2x^2-13x+9}{(x-1)(x-2)} \quad \text{where } x \neq 1, 2$$

$$38. \frac{2x+3}{3x+4} - \frac{x}{9x+12}$$

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

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

$$\frac{6x+9}{3(3x+4)} - \frac{x}{3(3x+4)}$$

$$= \frac{5x+9}{3(3x+4)} \quad \text{where } x \neq -4/3$$



$$39. \frac{4x^2}{3x+4} - \frac{2}{2x-3}$$

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

$$\frac{8x^3 - 12x^2}{(3x+4)(2x-3)} - \frac{6x+8}{(3x+4)(2x-3)}$$

$$= \frac{8x^3 - 12x^2 - 6x - 8}{(3x+4)(2x-3)} \quad \text{where } x \neq -\frac{4}{3}, \frac{3}{2}$$

$$40. \frac{6}{x^2+4x-32} - \frac{x-5}{x-4}$$

$$\frac{6}{(x-4)(x+8)} - \frac{x-5}{x-4}$$

$$\frac{6}{(x-4)(x+8)} - \frac{(x-5)(x+8)}{(x-4)(x+8)}$$

$$\frac{6}{(x-4)(x+8)} - \frac{x^2+3x-40}{(x-4)(x+8)}$$

$$= \frac{-x^2 - 3x + 46}{(x-4)(x+8)} \quad \text{where } x \neq 4, -8$$

$$41. \frac{x+7}{x^2+13x+42} - \frac{10x}{x^2+8x+7}$$

$$\frac{x+7}{(x+7)(x+6)} - \frac{10x}{(x+7)(x+1)}$$

$$\frac{(x+7)(x+1)}{(x+7)(x+6)(x+1)} - \frac{10x(x+6)}{(x+7)(x+6)(x+1)}$$

$$\frac{x^2+8x+7}{(x+7)(x+6)(x+1)} - \frac{10x^2+60x}{(x+7)(x+6)(x+1)}$$

$$= \frac{-9x^2 - 52x + 7}{(x+7)(x+6)(x+1)} \quad \text{where } x \neq -7, -6, -1$$