

$$11.) \frac{8}{3x^2} \quad x \neq 0$$

$$13.) = \frac{(x+4)(x-3)}{(x+4)(x+1)}$$

$$= \boxed{\frac{x-3}{x+1} \quad \begin{array}{l} x \neq -4 \\ x \neq -1 \end{array}}$$

$$15.) \frac{x}{x-4} \cdot \frac{-(x-2)}{(x+3)(x-2)}$$

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

$$17.) \frac{(3x+1)(3x-1)}{(x+3)(x-3)} \cdot \frac{(x+3)}{(3x+1)}$$

$$= \boxed{\frac{3x-1}{x-3}}$$

$$19.) \frac{x^2+2x-15}{x-2} \cdot \frac{2x-4}{x^2-9}$$

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

$$= \boxed{\frac{2(x+5)}{x+3}} \text{ or } \boxed{\frac{2x+10}{x+3}}$$

$$21.) \frac{x^2+4x+3}{x^2+2x-8} \cdot \frac{x-2}{3x+3}$$

$$= \frac{(x+3)(x+1)}{(x+4)(x-2)} \cdot \frac{(x-2)}{3(x+1)}$$

$$= \boxed{\frac{x+3}{3(x+4)}}$$

$$23.) \frac{(x-3)}{x+3} + \frac{1}{x-3} (x+3)$$

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

$$= \boxed{\frac{2x}{(x+3)(x-3)} \quad x \neq \pm 3}$$

$$25.) \frac{2x-3}{3x+7} + \frac{6}{4x-1} (3x+7)$$

$$= \frac{(4x-1)(2x-3) + 6(3x+7)}{(3x+7)(4x-1)}$$

$$= \frac{8x^2 - 12x - 2x + 3 + 18x + 42}{(3x+7)(4x-1)}$$

$$= \boxed{\frac{8x^2 + 4x + 45}{(3x+7)(4x-1)} \quad \begin{array}{l} x \neq -7/3 \\ x \neq 1/4 \end{array}}$$

$P(360) \div 5(4)$   
Doesn't factor

$$27.) \frac{x^2+2x-35}{(x+7)(x-5)}$$

$$\frac{x^2+9x+14}{(x+7)(x+2)}$$

$$\boxed{\text{LCM: } \frac{(x+7)(x-5)}{(x+2)}}$$

$$29.) \frac{(x-5)x}{x+5} - \frac{5}{x-5} (x+5)$$

$$= \frac{x(x-5) - [5(x+5)]}{(x+5)(x-5)}$$

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

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

$$= \frac{x^2 - 10x - 25}{(x+5)(x-5)} \quad \leftarrow \text{doesn't factor}$$

$x \neq \pm 5$

$$31.) \frac{(3x-1)2x}{2x+1} - \frac{7}{3x-1} (2x+1)$$

$$= \frac{2x(3x-1) - [7(2x+1)]}{(2x+1)(3x-1)}$$

$$= \frac{6x^2 - 2x - (14x + 7)}{(2x+1)(3x-1)}$$

$$= \frac{6x^2 - 2x - 14x - 7}{(2x+1)(3x-1)}$$

$$= \frac{6x^2 - 16x - 7}{(2x+1)(3x-1)} \quad \leftarrow \text{doesn't factor}$$

$x \neq -1/2$   
 $x \neq 1/3$

$$33.) \frac{x+3}{3x} \div \frac{x^2-9}{6x-9}$$

$$= \frac{x+3}{3x} \cdot \frac{6x-9}{x^2-9}$$

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

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

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