

p. 190-192, #18-30 evens, #36-40 evens, #50, #52

$$18. \frac{4x-8}{x^2-2x} = \frac{4(x-2)}{\cancel{(x-2)}(x^2+2x+4)} = \frac{4}{x^2+2x+4} \quad \boxed{\frac{4}{x}}$$

$x \neq 2, 0$

$$20. \frac{x^2-36}{x^2-12x+36} = \frac{(x-6)(x+6)}{(x-6)^2} = \frac{x+6}{x-6}$$

$x \neq 6$

$$22. \frac{-2x^2-9x}{4x^2-81} = \frac{-x(2x+9)}{(2x+9)(2x-9)} = \frac{-x}{2x-9}$$

$x \neq -\frac{9}{2}, \frac{9}{2}$

$$24. \frac{x^2 y}{4x y} \cdot \frac{x}{6} \cdot \frac{3y^5}{8x^4} = \frac{y^5}{8x^2}$$

$$26. \frac{x^2-2x-8}{9x^2-16} \cdot \frac{3x^2+10x+8}{x^2-16}$$

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

$$28. \frac{4x^2+15x+9}{8x^2+10x+3} = \frac{x^2+4x}{2x+1}$$

$$\frac{36}{12} \cdot \frac{3}{15}$$

$$4x^2+12x+3x+9 \cdot \frac{2x+1}{x^2+4x}$$

$$8x^2+6x+4x+3$$

$$\frac{24}{6} \cdot \frac{4}{10}$$

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

$$30. \frac{x+2}{x-4} \div \frac{1}{3x-12}$$

$$\frac{x+2}{\cancel{x-4}} \cdot \frac{3x-12}{1} = \boxed{3(x+2)}$$

$$36. \frac{2x}{3} \cdot \frac{x^3}{6x-8} = \frac{2x}{3} \cdot \frac{x^3}{2(3x-4)} = \boxed{\frac{x^4}{3(3x-4)}}$$

$$38. \frac{1}{25x^2-49} \div \frac{x}{10x-14}$$

$$\frac{1}{(\cancel{5x-7})(5x+7)} \cdot \frac{2(\cancel{5x-7})}{x} = \boxed{\frac{2}{x(5x+7)}}$$

$$40. \frac{14x^4}{xy} \cdot \frac{x^3}{6y^3} \cdot \frac{5x^2}{12y^5} \cdot \frac{12y^5}{5x^2} = \frac{14 \cdot 12 \cdot x^7 \cdot y^5}{6 \cdot 5 \cdot x^3 \cdot y^4} = \boxed{\frac{28x^4y}{5}}$$

$$50. \frac{8x^3-1}{x+2} \cdot \frac{x^2-4}{2x^2-5x+2}$$

$$\frac{(2x-1)(4x^2+2x+1)(x+2)(x-2)}{(x+2)(2x-1)(x-2)} = \boxed{4x^2+2x+1}$$

$$52. \frac{x^2-16}{x-3} \cdot \frac{(x^2-9)^{-1}}{x+4}$$

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