

Practice Test

SS

$$29. \quad \frac{f-1}{55} - \frac{(f+2)11}{5 \cdot 11}$$

$$\frac{f-1 - 11(f+2)}{55}$$

$$\frac{\widehat{f-1} - \widehat{11f+22}}{55}$$

$$\frac{\widehat{-10f-23}}{55}$$

$$5. \quad \frac{6a - 18}{8a - 24} = \frac{\cancel{6(a-3)}}{\cancel{8(a-3)}} = \frac{6}{8} = \frac{3}{4}$$

$$26. \quad \frac{11c + 31}{10y} - \frac{c + 1}{10y}$$

$$\frac{(11c + 31) - (c + 1)}{10y}$$

$$\frac{11c + 31 - c - 1}{10y}$$

$$\frac{10c + 30}{10y} = \frac{\cancel{10(c+3)}}{\cancel{10y}} = \frac{c+3}{y}$$

36.

$$\left(\frac{1 \overset{(x-9)}{\cancel{(x-9)}}}{(x+9) \underset{(x-9)}{\cancel{(x-9)}}} - \frac{6}{x^2-81} \right) \div \frac{4}{x-9}$$

$$(x+9)(x-9)$$

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

$$\frac{x-15}{4(x+9)}$$

22.

$$\frac{w^2+8w}{w^2+5w-24} \cdot \frac{w+3}{w}$$

$$\frac{\cancel{w}(w+8)}{\cancel{(w+8)}(w-3)} \cdot \frac{w+3}{\cancel{w}}$$

$$\frac{w+3}{w-3}$$

18.

$$\frac{2x^2 - 17x + 30}{2x^2 + 9x - 35} \cdot \frac{3x^2 + 18x - 21}{6-x}$$

$$2x^2 - 17x + 30$$

60
5, 12

$$2x^2 + 9x - 35$$

$$(2x-5)(x+7)$$

$$2x^2 - 5x - 12x + 30$$

$$x(2x-5) - 6(2x-5)$$

$$(2x-5)(x-6)$$

$$3x^2 + 18x - 21$$

$$3(x^2 + 6x - 7)$$

$$3(x-1)(x+7)$$

$$\frac{\overset{1}{(2x-5)} \overset{-1}{(x-6)}}{\overset{1}{(2x-5)} \overset{-1}{(x+7)}}$$

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

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

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

$$-3(x-1)$$

$$23. \frac{y^2 + 10y + 25}{y+4} \div \frac{\underline{5y^2 + 21y - 20}}{1}$$

$$\frac{(y+5)(y+5)}{y+4} \cdot \frac{1}{5y^2 + 21y - 20}$$

$$5y^2 + 21y - 20 = (y+5)(5y-4)$$

$$\frac{(y+5)\cancel{(y+5)}}{y+4} \cdot \frac{1}{\cancel{(y+5)}(5y-4)}$$

$$\frac{y+5}{(y+4)(5y-4)}$$

$$19. \frac{\cancel{f}}{\cancel{c^2}} \cdot \frac{\cancel{c^3}}{\cancel{f^2}} = \frac{c}{f}$$

$$56. \frac{m^2}{m^2 - m + 1} - \frac{m + 1}{m}$$

7.5 Complex Rational Expressions

$$8. \frac{\frac{2}{3}}{\frac{3}{2}} = \frac{\frac{2}{3}}{\frac{3}{2}} = \frac{2}{3} \cdot \frac{2}{3} = \frac{4}{9}$$

$$12. \frac{\frac{4 \cdot 2}{4 \cdot 3} + \frac{1 \cdot 3}{4 \cdot 3}}{\frac{2 \cdot 1}{2 \cdot 1} + \frac{1}{2}} = \frac{\frac{8}{12} + \frac{3}{12}}{\frac{2}{2} + \frac{1}{2}} = \frac{\frac{11}{12}}{\frac{3}{2}}$$
$$\frac{11}{\cancel{12}_6} \cdot \frac{\cancel{2}^1}{3} = \frac{11}{18}$$

$$16. \frac{\frac{5}{2x-1}}{\frac{x}{x+1}} = \frac{5}{2x-1} \cdot \frac{x+1}{x}$$

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

$$20. \frac{\frac{a}{b} - \frac{1 \cdot b}{1 \cdot b}}{a^2 - b^2} = \frac{\frac{a-b}{b}}{\frac{(a-b)(a+b)}{1}}$$

$$\frac{\cancel{a-b}}{b} \cdot \frac{1}{\cancel{(a-b)}(a+b)} = \frac{1}{b(a+b)}$$

$$24. \frac{\frac{x \cdot x}{x \cdot 1} - \frac{1}{x}}{\frac{x \cdot 1}{x \cdot 1} + \frac{1}{x}} = \frac{\frac{x^2 - 1}{x}}{\frac{x + 1}{x}}$$

$$= \frac{\frac{\cancel{(x+1)}(x-1)}{\cancel{x}} \cdot \frac{\cancel{x}}{\cancel{x+1}}}{1} = x - 1$$

$$28. \frac{\frac{k+2}{k^2-3k}}{\frac{k^2-4}{k}}$$

$$34. \frac{\frac{1}{f+2} - \frac{1}{f-3}}{1 + \frac{1}{f^2 - f - 6}}$$

$$36. \frac{1 - \frac{3}{x}}{1 - \frac{2}{x} - \frac{3}{x^2}}$$

$$38. \frac{\frac{v^2 + v - 2}{v^2 + 4v}}{\frac{2v^2 - 8}{v^2 + 2v - 8}}$$

$$44. \frac{1 - \frac{1}{u^2}}{1 + \frac{2}{u} + \frac{1}{u^2}}$$

