

7.2

$$1) \frac{4 \cancel{8x^2} \cdot \cancel{9}}{\cancel{9} \cdot \cancel{2}} = 4x^2$$

$$3) \frac{\cancel{9n} \cdot 7}{\cancel{2n} \cdot 5n} = \frac{63}{10n}$$

$$5) \frac{\cancel{5x^2} \cdot \cancel{6^3}}{\cancel{2^4} \cdot \cancel{5}} = \frac{3x^2}{2}$$

$$7) \frac{\cancel{7(m-6)} \cdot 5m \cdot \cancel{7(m-5)}}{\cancel{m-6} \cdot \cancel{7(m-5)}} = 5m$$

$$9) \frac{7r}{7r(r+10)} \div \frac{r-6}{(r-6)^2} = \frac{\cancel{7r}}{\cancel{7r}(r+10)} \cdot \frac{(r-6)^{\cancel{2}}}{\cancel{r-6}} = \frac{r-6}{r+10}$$

$$11) \frac{25n+25}{5} \cdot \frac{4}{30n+30} = \frac{\cancel{25(n+1)}}{\cancel{5}} \cdot \frac{\cancel{4^2}}{\cancel{3} \cdot \cancel{30(n+1)}} = \frac{2}{3}$$

$$13) \frac{x-10}{35x+21} \div \frac{7}{3x+21} = \frac{x-10}{35x+21} \cdot \frac{35x+21}{7} = \frac{x-10}{\cancel{7(5x+3)}} \cdot \frac{\cancel{7(5x+3)}}{7} = \frac{x-10}{7}$$

$$15) \frac{x^2-6x-7}{x+5} \cdot \frac{x+5}{x-7} = \frac{\cancel{(x-7)(x+1)} \cdot \cancel{x+5}}{\cancel{x+5} \cdot \cancel{x-7}} = x+1$$

$$17) \frac{8k}{24k^2-40k} \div \frac{1}{15k-25} = \frac{8k}{24k^2-40k} \cdot \frac{15k-25}{1} = \frac{\cancel{8k}}{\cancel{8k}(3k-5)} \cdot \frac{5(3k-5)}{1} = 5$$

$$19) (n-8) \cdot \frac{6}{10n-80} = \frac{\cancel{n-8}}{1} \cdot \frac{\cancel{6^3}}{\cancel{10}(n-8)} = \frac{3}{5}$$

$$21) \frac{4m+36}{m+9} \cdot \frac{m-5}{5m^2} = \frac{4(\cancel{m+9})}{\cancel{m+9}} \cdot \frac{m-5}{5m^2} = \frac{4(m-5)}{5m^2}$$

$$23) \frac{3x-6}{12x-24} \cdot (x+3) = \frac{\cancel{3(x-2)}}{\cancel{4} \cdot \cancel{12}(x-2)} \cdot \frac{x+3}{1} = \frac{x+3}{4}$$

$$25) \frac{b+2}{40b^2-24b} \cdot (5b-3) = \frac{b+2}{8b(\cancel{5b-3})} \cdot \frac{\cancel{5b-3}}{1} = \frac{b+2}{8b}$$

$$27) \frac{n-7}{6n-12} \cdot \frac{12-6n}{n^2+13n+42} = \frac{\cancel{n-7}}{\cancel{6}(n-2)} \cdot \frac{\cancel{-6}(n-2)}{\cancel{(n-7)}(n-6)} = \frac{-1}{n-6}$$

$$29) \frac{27a+36}{9a+63} \div \frac{6a+8}{2} = \frac{27a+36}{9a+63} \cdot \frac{2}{6a+8} = \frac{\cancel{9(3a+4)}}{\cancel{9}(a+7)} \cdot \frac{\cancel{2}}{\cancel{2}(3a+4)} = \frac{1}{a+7}$$

$$31) \frac{x^2-12x+32}{x^2-6x-16} \cdot \frac{7x^2+14x}{7x^2+21x} = \frac{\cancel{(x-8)}(x-4)}{\cancel{(x-8)}(x+2)} \cdot \frac{\cancel{7x}(x+2)}{\cancel{7x}(x+3)} = \frac{x-4}{x+3}$$

$$33) (10m^2 + 100m) \cdot \frac{18m^3 - 36m^2}{20m^2 - 40m} = \frac{\cancel{10}m(m+10)}{1} \cdot \frac{\cancel{18}m^2(\cancel{m-2})}{\cancel{20}m(\cancel{m-2})} = 9m^2(m + 10)$$

$$35) \frac{7p^2 + 25p + 12}{6p + 48} \cdot \frac{3p - 8}{21p^2 - 44p - 32} = \frac{(7p+4)(p+3)}{6(p+8)} \cdot \frac{\cancel{3p-8}}{(\cancel{7p+4})(\cancel{3p-8})} = \frac{p+3}{6(p+8)}$$

$$37) \frac{10b^2}{30b+20} \cdot \frac{30b+20}{2b^2+10b} = \frac{\cancel{10}b^2}{\cancel{10}(3b+2)} \cdot \frac{\cancel{5}\cancel{10}(3b+2)}{\cancel{2}b(b+5)} = \frac{5b}{b+5}$$

$$39) \frac{7r^2 - 53r - 24}{7r + 2} \div \frac{49r + 21}{49r + 14} = \frac{7r^2 - 53r - 24}{7r + 2} \cdot \frac{49r + 14}{49r + 21} = \frac{(7r+3)(r-8)}{7r+2} \cdot \frac{7(7r+2)}{7(7r+3)} = r - 8$$

$$41) \frac{x^2 - 1}{2x - 4} \cdot \frac{x^2 - 4}{x^2 - x - 2} \div \frac{x^2 + x - 2}{3x - 6} = \frac{x^2 - 1}{2x - 4} \cdot \frac{x^2 - 4}{x^2 - x - 2} \cdot \frac{3x - 6}{x^2 + x - 2} = \frac{(x+1)(x-1)}{2(x-2)} \cdot \frac{(x+2)(x-2)}{(x-2)(x+1)} \cdot \frac{3(x-2)}{(x+2)(x-1)} = \frac{3}{2}$$

$$43) \frac{x^2 + 3x + 9}{x^2 + x - 12} \cdot \frac{x^2 + 2x - 8}{x^3 - 27} \div \frac{x^2 - 4}{x^2 - 6x + 9} = \frac{x^2 + 3x + 9}{x^2 + x - 12} \cdot \frac{x^2 + 2x - 8}{x^3 - 27} \cdot \frac{x^2 - 6x + 9}{x^2 - 4} = \frac{x^2 + 3x + 9}{(x+4)(x-3)} \cdot \frac{(x-3)^2}{(x-2)(x+2)} \cdot \frac{1}{x+2}$$