

Example #1 → Find the Product

$$1) \frac{3\cancel{9}p^2}{7} \cdot \frac{5}{2\cancel{6}p^2}$$

$$\frac{45p^2}{42p^4} \div 3p^2$$

$$\frac{15}{14p^2}$$

$$2) \frac{v^2+v-12}{5v+10} \cdot \frac{v+2}{v^2+5v+4}$$

$$\frac{(v^2+v-12)(v+2)}{(5v+10)(v^2+5v+4)}$$

$$\frac{\cancel{(v+4)}(v-3)\cancel{(v+2)}}{5\cancel{(v+2)}\cancel{(v+4)}(v+1)}$$

$$\frac{v-3}{5(v+1)}$$

Continue to Find the Product

$$3) \frac{-3m}{m^2-7m+10} \cdot \frac{m^2-25}{m+5}$$

$$\frac{-3m}{(m-5)(m-2)} \cdot \frac{\cancel{(m+5)}\cancel{(m-5)}}{m+5}$$

$$\frac{-3m}{m-2}$$

$$4) \frac{4x^2-20x-144}{20} \cdot \frac{5x}{2x^3-17x^2-9x}$$

$$\frac{4(x^2-5x-36)}{20} \cdot \frac{5x}{x(2x^2-17x-9)}$$

$$\frac{\cancel{(x-9)}(x+4)}{20} \cdot \frac{5x}{x(2x+1)\cancel{(x-9)}}$$

$$\frac{x+4}{2x+1}$$

Example #2 → Find the Quotient

$$5) \frac{16r^2}{3} \div \frac{12}{5r}$$

$$\frac{4\cancel{4}r^2}{3} \times \frac{5r}{\cancel{12}3}$$

$$\frac{20r^3}{9}$$

$$6) \frac{2w^2}{w^2-81} \div \frac{w^2}{w+9}$$

$$\frac{2w^2}{w^2-81} \times \frac{w+9}{w^2}$$

$$\frac{2w^2}{(w-9)\cancel{(w+9)}} \times \frac{\cancel{w+9}}{\cancel{w^2}}$$

$$\frac{2}{w-9}$$

Continue to Find the Quotient

$$7) \frac{3x-18}{x^2-2x+24} \div (x+4)$$

$$\frac{3x-18}{x^2-2x-24} \times \frac{1}{x+4}$$

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