

$$\begin{array}{l} \boxed{x-3} \\ \boxed{4x^2+24x+36} \end{array} \cdot \left( \begin{array}{l} \boxed{x} \quad \boxed{3} \quad \boxed{x^2+9} \\ \boxed{3x-9} \quad \boxed{x^2+3x} \quad \boxed{27-3x^2} \end{array} \right) = \begin{array}{l} \boxed{x-3} \\ \boxed{4(x+3)^2} \end{array} \cdot \left( \begin{array}{l} \boxed{x} \quad \boxed{3} \quad \boxed{x^2+9} \\ \boxed{3(x-3)} \quad \boxed{x(x+3)} \quad \boxed{3(3-x)(3+x)} \end{array} \right)$$

$$\begin{array}{l} \boxed{x-3} \\ \boxed{4(x+3)^2} \end{array} \cdot \left( \begin{array}{l} \boxed{x} \quad \boxed{3} \quad \boxed{x^2+9} \\ \boxed{3(x-3)} \quad \boxed{x(x+3)} \quad \boxed{3(x-3)(3+x)} \end{array} \right) = \begin{array}{l} \boxed{x-3} \\ \boxed{4(x+3)^2} \end{array} \cdot \left( \begin{array}{l} \boxed{x^2(x+3)-9(x-3)-x(x^2+9)} \\ \boxed{3x(x-3)(x+3)} \end{array} \right)$$

$$\begin{array}{l} \boxed{x-3} \\ \boxed{4(x+3)^2} \end{array} \cdot \left( \begin{array}{l} \boxed{x^3+3x^2-9x+27-x^3-9x} \\ \boxed{3x(x-3)(x+3)} \end{array} \right) = \begin{array}{l} \boxed{x-3} \\ \boxed{4(x+3)^2} \end{array} \cdot \left( \begin{array}{l} \boxed{3x^2-18x+27} \\ \boxed{3x(x-3)(x+3)} \end{array} \right)$$

$$\begin{array}{l} \boxed{x-3} \\ \boxed{4(x+3)^2} \end{array} * \left( \begin{array}{l} \boxed{3x(x-3)(x+3)} \\ \boxed{3(x^2-6x+9)} \end{array} \right) = \begin{array}{l} \boxed{x-3} \\ \boxed{4(x+3)^2} \end{array} * \left( \begin{array}{l} \boxed{3x(x-3)(x+3)} \\ \boxed{3(x-3)^2} \end{array} \right) = \begin{array}{l} \boxed{3x((x-3)^2)(x+3)} \\ \boxed{3(x-3)^2(4(x+3)^2)} \end{array} = \begin{array}{l} \boxed{x} \\ \boxed{4x+12} \end{array}$$