

# Math 4 3-4 Guided ws Practice

$$\textcircled{1} \frac{24}{x^5} \cdot \frac{x^2}{3} = \boxed{\frac{8}{x^3}}$$

$$\textcircled{2} \frac{14x^2 - 7}{4} \cdot \frac{2}{xy^3} = \boxed{\frac{7x}{y^2}}$$

$$\textcircled{3} \frac{x^2}{10x-2} \cdot \frac{2}{x^3+2}$$

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

$$\textcircled{4} \frac{x^2-9}{x+1} \cdot \frac{x^2+2x+1}{2x^2-10x+12}$$

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

$$\textcircled{5} \frac{x^2+4}{x^2-6x+9} \cdot \frac{x^2+5x+6}{x^4-16}$$

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

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

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

$$\textcircled{6} \frac{x}{y^2} \div \frac{x^2}{y^3} \Rightarrow \frac{x}{y^2} \cdot \frac{y^3}{x^2} = \boxed{\frac{y}{x}}$$

$$\textcircled{7} \frac{x+6}{4} \div \frac{x}{2} \Rightarrow \frac{x+6}{4} \cdot \frac{2}{x} = \boxed{\frac{x+6}{2x}}$$

$$\textcircled{8} \frac{4-2x}{12} \div \frac{x-2}{2}$$

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

$$\textcircled{9} \frac{x^2-8x+16}{x^2+8x+16} \div \frac{(x-4)^4}{(x+4)^4}$$

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

$$\textcircled{10} \frac{a^4-81b^4}{a^2c-6abc+9b^2c} \div \frac{a^2+6ab+9b^2}{(a-3b)^2}$$

$$\frac{(a^2-9b^2)(a^2+9b^2)}{c(a-3b)^2} \cdot \frac{(a-3b)^2}{(a+3b)^2}$$

$$\frac{\cancel{(a+3b)}(a-3b)(a^2+9b^2)}{c(a+3b)^2}$$

$$= \boxed{\frac{(a-3b)(a^2+9b^2)}{c(a+3b)}}$$