Quiz #10 – Rational Expressions #2

Perform the given operation. Simplify completely for full credit

1) $\frac{x^2-2x}{x^2+2x+1} \cdot \frac{x^2+4x+3}{x^2+3x}$

① FACTOR EVERYTHING
② ELIMINATE COMMON FACTORS - ANY NUMERATOR WITH ANY DENOMIN.

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

$= \boxed{\frac{x-2}{x+1}}$

2) $\frac{x^2+5x-24}{x^2-9} \div \frac{x^2-x-6}{x+2}$ → DON'T DIVIDE, MULTIPLY BY THE RECIPROCAL

$= \frac{x^2+5x-24}{x^2-9} \cdot \frac{x+2}{x^2-x-6} = \frac{(x+8)(x-3)}{(x+3)(x-3)} \cdot \frac{x+2}{(x-3)(x+2)}$

$= \boxed{\frac{x+8}{(x+3)(x-3)}}$

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