

$$\begin{aligned}
& \frac{x^2 + 5x + 1}{x + 3} - \frac{4x - 5}{x + 3} + \frac{7x + 9}{x + 3} \\
= & \frac{x^2 + 5x + 1 - (4x - 5) + 7x + 9}{x + 3} \\
= & \frac{x^2 + 5x + 1 - 4x + 5 + 7x + 9}{x + 3} \\
= & \frac{x^2 + 8x + 15}{x + 3} \\
= & \frac{\overset{1}{(x + 3)}(x + 5)}{\underset{1}{\cancel{x + 3}}}
\end{aligned}$$