

$y^2 + 4y = y(y + 4)$ and $y^2 + 7y + 12 = (y + 4)(y + 3)$, so the LCM = $y(y + 4)(y + 3)$.

$$\begin{aligned} \frac{y+3}{y^2+4y} - \frac{9}{y^2+7y+12} &= \frac{y+3}{y(y+4)} - \frac{9}{(y+4)(y+3)} \\ &= \frac{(y+3)(y+3)}{y(y+4)(y+3)} - \frac{9(y)}{(y+4)(y+3)(y)} = \frac{y^2+6y+9}{y^3+7y^2+12y} - \frac{9y}{y^3+7y^2+12y} \\ &= \frac{y^2-3y+9}{y^3+7y^2+12y} \end{aligned}$$