

$$\begin{aligned}
 \text{d) } \frac{3t}{2-t} - \frac{8t}{t-2} &= \frac{3t}{2-t} = \frac{8t}{t-2} \cdot \frac{-1}{-1} \\
 &= \frac{3t}{2-t} - \frac{-8t}{2-t} \\
 &= \frac{11t}{2-t} \\
 &\quad \left(\text{or } -\frac{11t}{t-2} \right)
 \end{aligned}$$

$$\text{e) } \frac{3}{x^2-x-12} - \frac{2}{x^2-9} = \frac{3}{(x-4)(x+3)} - \frac{2}{(x-3)(x+3)}$$

$$\frac{\text{LCM}}{(x-4)(x+3)(x-3)}$$

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

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

$$= \frac{3x-9-2x+8}{(x-4)(x+3)(x-3)} = \frac{x-1}{(x-4)(x+3)(x-3)}$$