

$$\begin{aligned}
 2b) \quad \int \ln(2x+3) dx &\stackrel{?}{=} \frac{1}{2}(2x+3)(\ln(2x+3) - 1) \\
 \ln(2x+3) &\stackrel{?}{=} \frac{d}{dx} \left(\frac{1}{2}(2x+3)(\ln(2x+3) - 1) \right) \\
 &= \frac{1}{2} \cdot 2 \cdot (\ln(2x+3) - 1) + \frac{1}{2}(2x+3) \frac{d}{dx} (\ln(2x+3) - 1) \\
 &= (\ln(2x+3) - 1) + \frac{2x+3}{2} \left(\frac{2}{2x+3} \right) \\
 &= (\ln(2x+3) - 1) + 1 \\
 &= \ln(2x+3) \quad \quad \quad \text{||}
 \end{aligned}$$