8. $\lim_{x \to \underset{c}{4}} (\underbrace{2x+1}_{f(x)}) = \underbrace{9}_{L}$

$|f(x) - L| < \varepsilon$ WHEN $0 < |x - c| < \delta$

$|2x+1 - 9| < \varepsilon$ WHEN $0 < |x-4| < \delta$

$|2x - 8| < \varepsilon$

$2|x-4| < \varepsilon$

$\frac{2|x-4|}{2} < \frac{\varepsilon}{2}$

$|x-4| < \frac{\varepsilon}{2}$ so $\delta = \frac{\varepsilon}{2}$

$|x - c| < \delta$

$|x - 4| < \frac{\varepsilon}{2}$

$2|x-4| < 2(\frac{\varepsilon}{2})$

$|2x - 8| < \varepsilon$

$|2x + 1 - 9| < \varepsilon$

$|f(x) - L| < \varepsilon$ ✓