9. $f(x) = |\underbrace{5x+2}_{u}|$ $[-3, 4]$

$\frac{d}{dx}[|u|] = \frac{u}{|u|} \cdot u'$

$f'(x) = \frac{5x+2}{|5x+2|} \cdot 5$

$|5x+2| = 0$

$5x+2 = 0$

$5x = -2$

$x = -\frac{2}{5}$

CANNOT USE MEAN VALUE THEOREM

10. $f(x) = \sqrt{5+x}$ $[-4, 4]$ (a, b)

$5+x \geq 0$

$x \geq -5$ CONT.

① $f(x) = (5+x)^{1/2}$

$f'(x) = \frac{1}{2}(5+x)^{\frac{1}{2}-1} \cdot \frac{d}{dx}(5+x)$

$= \frac{1}{2}(5+x)^{-\frac{1}{2}}$

$= \frac{1}{2(5+x)^{1/2}}$

② $f(b) = f(4) = \sqrt{5+4} = \sqrt{9} = 3$

$f(a) = f(-4) = \sqrt{5+(-4)} = \sqrt{1} = 1$

$\frac{f(b)-f(a)}{b-a} = \frac{3-1}{4-(-4)} = \frac{2}{8} = \frac{1}{4}$

③ $\frac{1}{2(5+x)^{1/2}} = \frac{1}{4}$

$2(5+x)^{1/2} = 4$

$(5+x)^{1/2} = 2$

$\sqrt{5+x} = 2$

$(\sqrt{5+x})^2 = 2^2$

$5+x = 4$

$x = 4-5$

$x = -1$