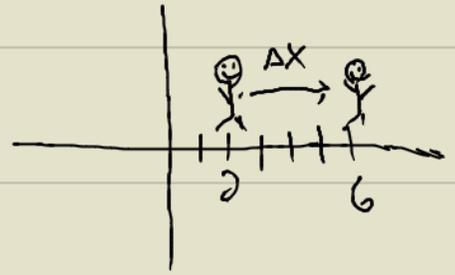
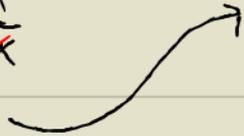


$$14. \lim_{\Delta x \rightarrow 0} \left( \frac{9(x+\Delta x) + 2 - (9x+2)}{\Delta x} \right)$$



$$\lim_{\Delta x \rightarrow 0} \frac{\cancel{9x} + 9\Delta x + \cancel{2} - \cancel{9x} - \cancel{2}}{\Delta x}$$

$$\lim_{\Delta x \rightarrow 0} \frac{\cancel{9\Delta x}}{\Delta x}$$



$$\lim_{\Delta x \rightarrow 0} 9 = 9$$

15.

$$\lim_{\Delta x \rightarrow 0} \frac{\sqrt{x+\Delta x-3} - \sqrt{x-3}}{\Delta x}$$

CONJUGATE METHOD

MULTIPLY THE TOP AND BOTTOM BY CONJUGATE OF TOP

$$\lim_{\Delta x \rightarrow 0} \frac{\sqrt{x+\Delta x-3} - \sqrt{x-3}}{\Delta x}$$

$$\frac{\sqrt{x+\Delta x-3} + \sqrt{x-3}}{\sqrt{x+\Delta x-3} + \sqrt{x-3}}$$

$$\lim_{\Delta x \rightarrow 0} \frac{\sqrt{x+\Delta x-3} \sqrt{x+\Delta x-3} - \sqrt{x-3} \sqrt{x-3}}{\Delta x (\sqrt{x+\Delta x-3} + \sqrt{x-3})}$$

$$\lim_{\Delta x \rightarrow 0} \frac{x+\Delta x-3 - (x-3)}{\Delta x (\sqrt{x+\Delta x-3} + \sqrt{x-3})}$$

$$\lim_{\Delta x \rightarrow 0} \frac{\cancel{x} + \Delta x - \cancel{3} - \cancel{x} + \cancel{3}}{\Delta x (\sqrt{x+\Delta x-3} + \sqrt{x-3})}$$

$$\frac{1}{\sqrt{x-3} + \sqrt{x-3}}$$

$$\lim_{\Delta x \rightarrow 0} \frac{\Delta x}{\Delta x (\sqrt{x+\Delta x-3} + \sqrt{x-3})}$$

$$\frac{1}{2\sqrt{x-3}}$$

$$\lim_{\Delta x \rightarrow 0} \frac{1}{\sqrt{x+\Delta x-3} + \sqrt{x-3}}$$

$$\frac{1}{\sqrt{x+0-3} + \sqrt{x-3}}$$

$$16. \lim_{x \rightarrow 3} \frac{1}{(x-3)}$$

D.N.E.