

3) Find the limit of the model Equation given in Equation

$$\frac{3-x}{|3-x|} \lim_{x \rightarrow 3^+}$$

Solution

$$\frac{3-3+h}{|3-(3+h)|} = \frac{h}{|h|} = 1$$

4) Evaluate the limit of the model given in Equation (4), if it exists.

$$\lim_{x \rightarrow 3} \frac{3-x}{|3-x|}$$

$$\frac{3-3+h}{|3-3+h|} = \frac{h}{|h|} = \frac{h}{h}$$

2) The model of a system has been developed by an engineer to be as given in Equation

$$F(x) = 5x - 21$$

$$x \rightarrow 6$$

x	F(x)
6.1	9.5
6.01	9.05
6.001	9.005
6.0001	9.0005
6.00001	9.00005
6.000001	9.000005
6.0000001	9.0000005

$$\therefore F(x) = 5x - 21 \rightarrow$$

$$f(x) = \sqrt{x+4}$$

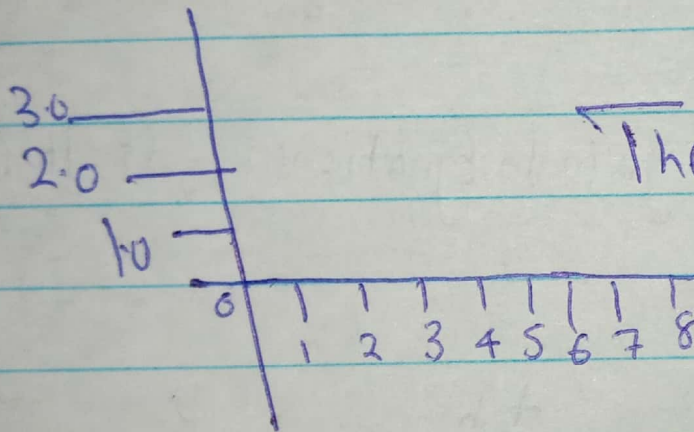
$$4+4 \quad \sqrt{4+4} = \sqrt{8} = 2.83$$

$$5 \quad \sqrt{5+4} = \sqrt{9} = 3.00$$

$$6 \quad \sqrt{6+4} = \sqrt{10} = 3.16$$

$$7 \quad \sqrt{7+4} = \sqrt{11} = 3.32$$

$$8 \quad \sqrt{8+4} = \sqrt{12} = 3.46$$



The function is continuous.