$$\frac{3-3}{|3-3|}$$

$$= \frac{0}{0}$$ ⇒ undefined

The Limit does not exist.

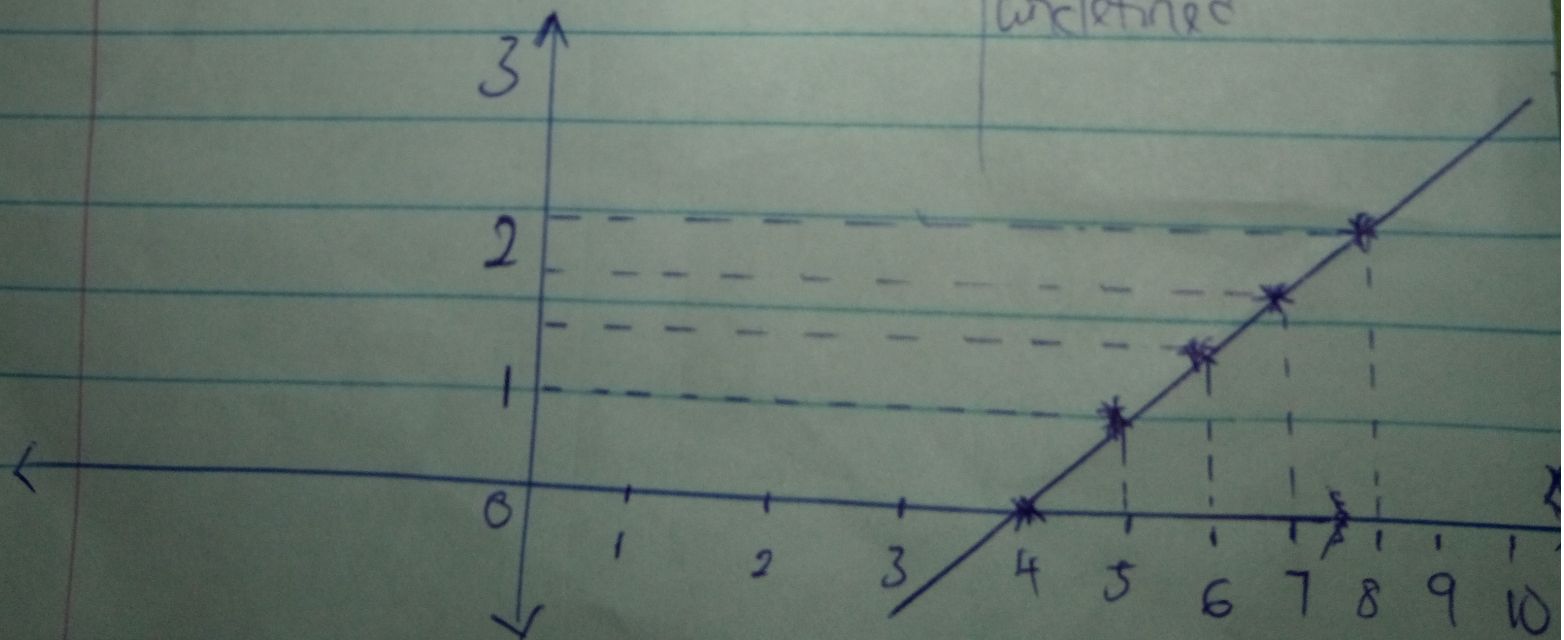
3. Show That The function given in The equation below is continuous on The interval $[4, 0]$.

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

Solu

x	$f(x) = \sqrt{x-4}$
4	0
5	1
6	1.4
7	1.7
8	2.0

The The graph below shows That The function on $f(x) = \sqrt{x-4}$ on interval $[4, 8]$ is continuous because There are no point where The function are undefined



Since

Since The right hand limit & Left hand limit are equal to a

Therefore;

$\lim_{x \to 6} (3x - 2) = a$

3. find The limit of The model given as;

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

Solution

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

$$= \lim_{\delta \to 0} \frac{3-(3+x)}{|3-(3+x)|}$$

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

Since the right hand limit & left hand limit are equal to a, therefore;

$$\lim_{x \to 6} (5x - 21) = a$$

3. find the limit of the model given as;

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

Soln;

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

$$= \lim_{\delta \to 0} \frac{3 - (3 + x)}{|3 - (3 + x)|}$$

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

4. Evaluate the limit of the model given as $\lim_{x \to 3} \frac{x - 3}{|x - 3|}$.

Soln;

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

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

$$= \frac{0}{0}$$

= Undefined.

The limit does not exist.

5. Show that the function given in the equation below is continuous on the interval $[4, 5]$.

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