

OHUABUNWA STELLA 17/ENG05/028.

ENG 281 ASSIGNMENT.

1.

$$f(x) = \pi$$

$$x \rightarrow 1$$

2.  $f(x) = 5x - 21$ ;  $a = 6$   $\delta = 0.1$

L.H.S.

R.H.S

$a - \delta(x)$	$\lim(5x - 21)$	$a + \delta(x)$	$\lim(5x - 21)$
5.9	8.5	6.1	9.5
5.91	8.55	6.09	9.45
5.92	8.6	6.08	9.4
5.93	8.65	6.07	9.35
5.94	8.7	6.06	9.3
5.95	8.75	6.05	9.25
5.96	8.8	6.04	9.2
5.97	8.85	6.03	9.15
5.98	8.9	6.02	9.1
5.99	8.95	6.01	9.05
6	9	6	9

← The limit exists →

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

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

$$4. \lim_{x \rightarrow 3} \frac{x-3}{|x-3|}$$

$\therefore$  R.H.S

$$\lim_{x \rightarrow 3^+} \frac{(3+h)-3}{|(3+h)-3|} = \frac{h}{h} = 1$$

L.H.S

$$\lim_{x \rightarrow 3^-} \frac{(3-h)-3}{|(3-h)-3|} = \frac{-h}{|-h|} = \frac{-h}{h} = -1$$

$\therefore$  L.H.S  $\neq$  R.H.S

Therefore, the limit doesn't exist.

$$5. f(x) = \sqrt{x-4}$$

$$\lim_{x \rightarrow 4} f(x) = \sqrt{4-4} = 0$$

$$\lim_{x \rightarrow 8} f(x) = \sqrt{8-4} = \sqrt{4} = 2$$

$\therefore$  4, 5, 6, 7, 8

= 0, 1.4, 1.7, 2.

for graph, P.T.O

Date

No.

