Ogunleye Adedapo Amarteen
Civil Engineering
17/ENG03/038
ENG 281

① $\lim_{x \to 3} \pi$

The limit does not exist.

② $f(x) = 5x - 21 = 9$

$x \to 6$ $\delta = 0.1$, $a = 6$, step $= 0.01$

a	$a - \delta$	$f(x)$
6	5.90	8.50
	5.91	8.55
	5.92	8.60
	5.93	8.65
	5.94	8.70
	5.95	8.75
	5.96	8.80
	5.97	8.85
	5.98	8.90
	5.99	8.95
	6.00	9.00

a	$a + \delta$	$f(x)$
6	6.10	9.50
	6.09	9.45
	6.08	9.40
	6.07	9.35
	6.06	9.30
	6.05	9.25
	6.04	9.20
	6.03	9.15
	6.02	9.10
	6.01	9.05
	6.00	9.00

$\therefore \lim_{x \to 6} 5x - 21 = 9$

Scanned by CamScanner

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

∴ from right hand let $x = 3+8$

$= \frac{3-(3+8)}{|3-(3+8)|}$

$= \frac{3-3-8}{|3-3-8|} = \frac{-8}{|-8|} = \frac{-8}{8} = \underline{\underline{-1}}$

④ $\lim_{x \to 3} \frac{x-3}{|x-3|}$

from right hand
let $x = 3+8$

$= \frac{(3+8)-3}{|(3+8)-3|}$

$= \frac{8}{8} = \underline{\underline{1}}$

from left hand
let $x = 3-8$

$\frac{3-8-3}{|3-8-3|}$

$= \frac{-8}{8} = \underline{\underline{-1}}$

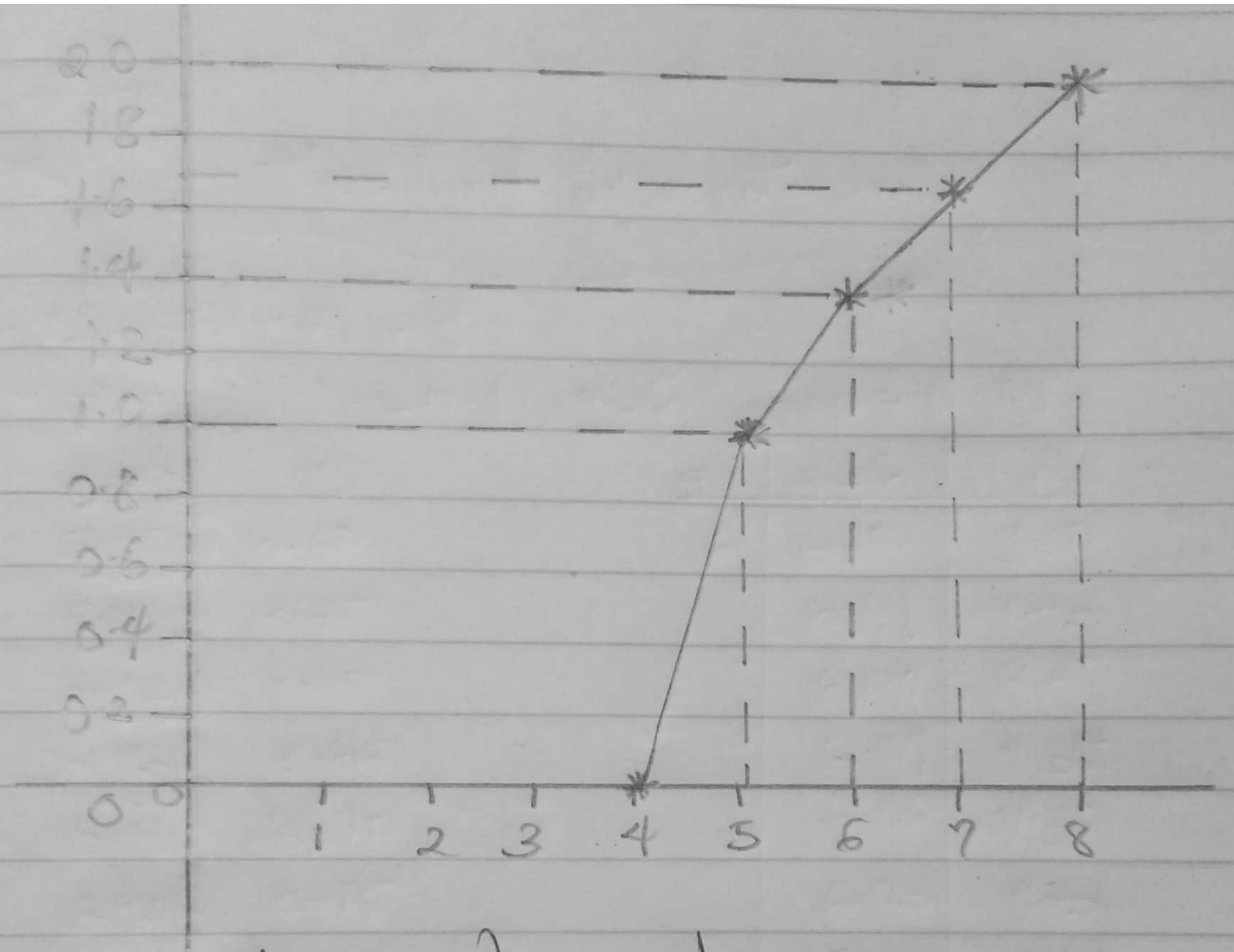
the $\lim \frac{x-3}{x-3}$ does not exist

⑤

x	$y = f(x)$
4	0.0
5	1.0
6	1.4
7	1.7
8	2.0

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

Scanned by CamScanner



This graph is continuous.

Scanned by CamScanner