Onyeuka Ugo Promise
17/ENG04/061

2

$f(x)$	$x-\delta$	x	$x+\delta$	$f(x)$
8.50	5.90		6.10	9.50
8.55	5.91		6.09	9.45
8.60	5.92		6.08	9.40
8.65	5.93		6.07	9.35
8.70	5.94		6.06	9.30
8.75	5.95		6.05	9.25
8.80	5.96		6.04	9.20
8.85	5.97		6.03	9.15
8.90	5.98		6.02	9.10
8.95	5.99		6.01	9.05

$6.00 = 9.0$

* The limit exists on both sides so it exists

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

$$\lim_{x \to 0} = \frac{-\delta}{\delta} = -1 \ //$$

4 $\lim_{x \to 3^+} = \frac{x-3}{|x-3|}$

$\lim_{x \to 3^+} = \frac{3.1 - 3}{|3.1 - 3|}$

$\lim_{x \to 3^+} = \frac{0.1}{0.1}$

$= 1$ //

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

$\lim_{x \to 3^-} = \frac{2.9 - 3}{|2.9 - 3|}$

$= \frac{-0.1}{0.1}$

$= -1$ //

$\therefore \lim_{x \to 3} \frac{x-3}{|x-3|}$ does not exist

because $\lim_{x \to 3^-}$ and $\lim_{x \to 3^+}$ are not equal

5 $\lim_{x \to 4/8} P(x) = \sqrt{x-4}$

when $x \to 4$

$\lim_{x \to 4} P(x) = \sqrt{x-4}$

$\lim_{x \to 4} P(x) = \sqrt{4-4}$

$= 0$

when $x \to 8$

$\lim_{x \to 8} P(x) = \sqrt{x-4}$

$\lim_{x \to 8} P(x) = \sqrt{8-4}$

$= 2$

x	f(x) = $\sqrt{x-4}$
4	0
5	$\sqrt{1} = 1$
6	$\sqrt{2} = 1.41$
7	$\sqrt{3} = 1.73$
8	2

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when $x \to 4$

$\lim_{x \to 4} P(x) = \sqrt{x-4}$

$\lim_{x \to 4} P(x) = \sqrt{4-4}$

$= 0$

when $x \to 8$

$\lim_{x \to 8} P(x) = \sqrt{x-4}$

$\lim_{x \to 8} P(x) = \sqrt{8-4}$

$= 2$

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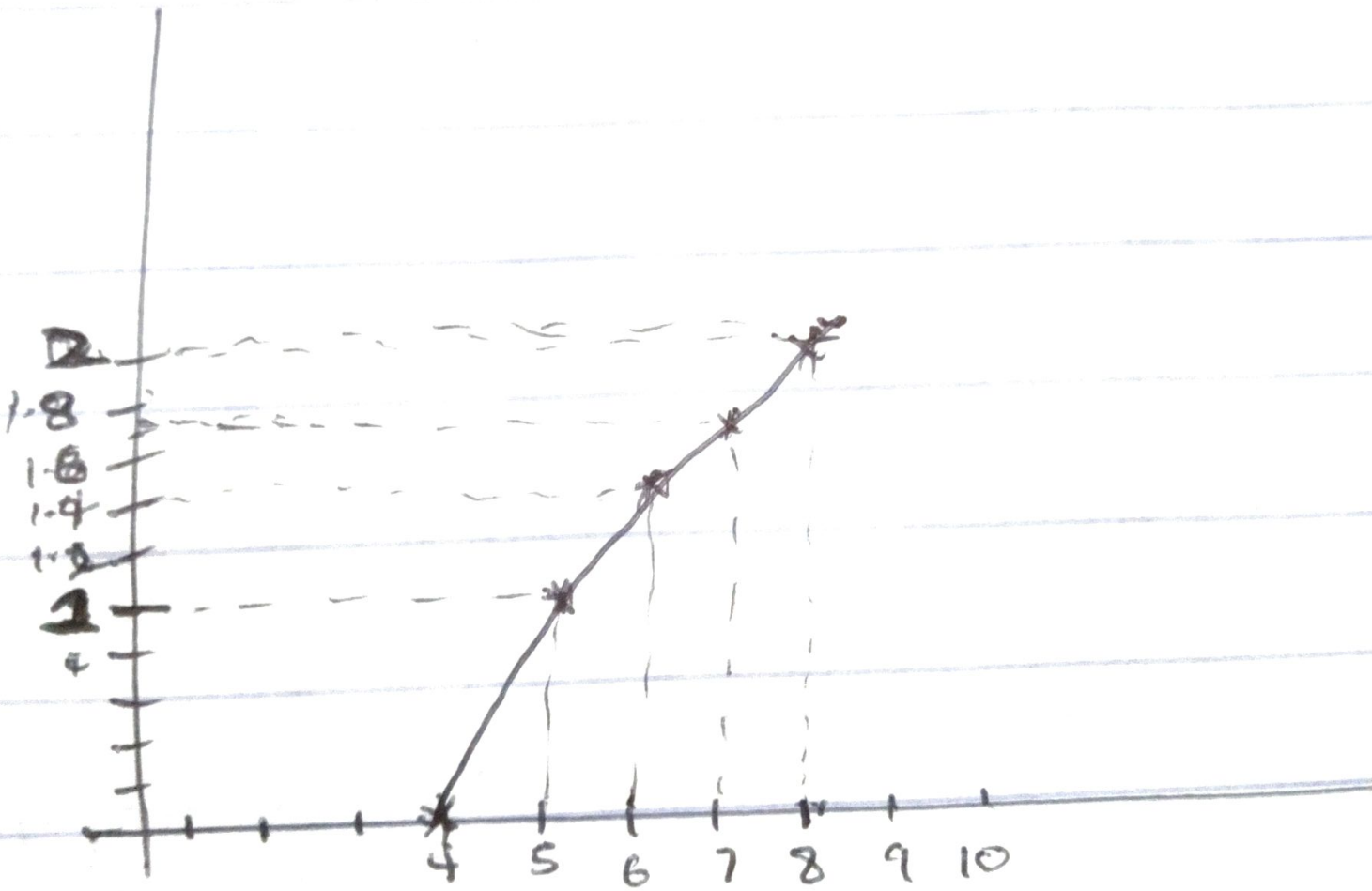
2
1.8
1.6
1.4
1.2
1
4
5
6
7
8
9
10