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17/ENG03/024

Civil Engineering

ENG 281 Assignment

1. $f(x) = \pi$

$$\lim_{x \rightarrow 3} f(x) = \pi$$

2.	$a - \delta$	b	δ	$a - \delta$
	8.50	5.90	6.1	9.5
	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
	9.00	6.00	6.00	9.00

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

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

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

$$= \frac{+x}{+x} = +1$$

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4. From question 3, we have that $\lim_{x \rightarrow 3^+} \frac{3-x}{|3-x|}$ exists.

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

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

Hence the limit exists.

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

Interval = $[4, 8]$

x	f(x)
4	0
5	1
6	1.4
7	1.73
8	2

