Ayhasih William
17/ENG03/007
200lvl
ENG 281
Civil Engineering

Given a function to be (c)

$f(x) = x$ for $\lim f(x)$
$x \to 3$

$f(x) = \pi$

2) The model of a system has been deployed by an engineer to be as given in equation (2).

$F(x) = 5x - 21$

Given that $a = -1$ and using a step of 0.01 demonstrate in tabular form that limit of the model as $x \to 6$ is equal to 9

f(x)	9.0	9+0	f(x)
8.50	5.90	6.10	9.50
8.55	5.91	6.09	9.45
[illegible]60	5.92	6.08	9.40
[illegible]65	5.93	6.07	9.85
8.70	5.94	6.06	9.80
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

Since the right hand limit (RHL) and left hand limit are equal to 9. Therefore;

$$\lim_{x \to 6} (5x - 21) + 9$$

Find the limit of the model given as

$$\lim_{x \to 3} \frac{3 - x}{(3 - x)}$$

$$\lim_{x \to 3} \frac{3-x}{(3-x)} = \lim_{x \to 0} \frac{3-(3+x)}{13-(3+x)} = \frac{-x}{x} = -1$$

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

Solu

$$\lim_{x \to 3} \frac{x-3}{(x-3)}$$

$$= \frac{3-3}{(3-3)} = \frac{0}{0}$$

= Undefined Hence, limit doesn't exist

5 Show that the function given by the equation below is continuous on the interval $f(x) \sqrt{x-4}$

x	$F(x) \sqrt{x-4}$
4	0
5	1·0
6	1·4
7	1·7
8	2·0