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Since $f(-5) \neq f(5)$ i.e. OZO, we can say that the function $f(x) = (25 - x^2)^{1/2}$ is continuous on the interval $(-5, 5)$.

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$\lim_{x \rightarrow a} \frac{\sin ax}{bx}$

By Direct substitution,

$\lim_{x \rightarrow a} \frac{\sin ax}{bx} = \frac{\sin ax}{bx} = \frac{\sin 0}{0} = \text{undefined}$

Using L'Hopital's Rule,

$\lim_{x \rightarrow a} \frac{\sin ax}{bx} = \frac{a \cos ax}{b} = \frac{a \cos 0}{b} = \frac{a}{b}$

$\lim_{x \rightarrow a} \frac{\sin ax}{bx} = \frac{a}{b}$

2. $f = 0.1, 0.01$

$\epsilon = 0.5, 0.05$

x	$f(x)$	x	$f(x)$
5.9	8.5	6.1	9.5
5.91	8.55	6.09	9.45
5.92	8.60	6.08	9.40
5.93	8.65	6.07	9.35
5.94	8.70	6.06	9.30
5.95	8.75	6.05	9.25
5.96	8.80	6.04	9.20

38. $f(x) = (25 - x^2)^{1/2}$. $(-5, 5)$

$f(-5) = (25 - (-5)^2)^{1/2}$

$= (25 - 25)^{1/2}$

$= 20^{1/2}$

$f(5) = (25 - (5)^2)^{1/2}$

$= (25 - 25)^{1/2}$

$= 20^{1/2}$