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It is incorrect to put (a,b) here. (why?)

(a) If f is a conti. function on $[a,b]$, and if y_0 is any value between $f(a)$ and $f(b)$, then $y_0 = f(c)$ for some $c \in [a,b]$ 16

4 pts only for the special case $y_0 = 0, f(a)f(b) < 0$

(b) Let $f(x) = x - 1 - \cos x$, $f(x)$ is conti. since $x, 1, \cos x$ are
8 (conti. on $\mathbb{R}$, $f(x)$ is also conti. on $\mathbb{R}$.

Note that $f(1) = 1 - 1 - \cos 1 = -\cos 1 < 0$ and $f(2) = 2 - 1 - \cos 2 > 0$

8 (By I.V.T. $\exists a \in (1,2)$ s.t. $f(a) = 0 \Rightarrow a - 1 = \cos a$. This

a is the root we want.