Name_____ No calculators. Present neatly. Score_____.

1)

Suppose that f is continuous on $[0, 4], f(0) = 1$, and $2 \leqslant f'(x) \leqslant 5$ for all x in $(0, 4)$. Show that $9 \leqslant f(4) \leqslant 21$.

2)

Show that the equation $3x + 2\cos x + 5 = 0$ has exactly one real root.

Your work: