Name: ______________________________

Quiz 19 ♡

MATH 200
November 15, 2021

1. Consider $f(x) = x^2 + 2x$ on $[0, 5]$. Find *all* numbers c in $(0, 5)$ guaranteed by the mean value theorem.

2. Suppose $f(x)$ is a function, and $f(50) = -20$ and $f'(50) = 7$. Based on this information, find the linear approximation $L(x)$ for $f(x)$ at 50. Then use it to find an approximate value of $f(51)$.

Name: ______________________________

Quiz 19 ♣

MATH 200

November 15, 2021

1. Consider $f(x) = 4 - x^2$ on $[1, 2]$. Find *all* numbers c in $(1, 2)$ guaranteed by the mean value theorem.

2. Suppose $f(x)$ is a function, and $f(11) = 10$ and $f'(11) = -2$. Based on this information, find the linear approximation $L(x)$ for $f(x)$ at 11. Then use it to approximate value of $f(10)$.

Name: ______________________________ Quiz 19 $\diamondsuit$ MATH 200
November 15, 2021

1. Consider $f(x) = x^2 + 2x - 3$ on $[-3, 0]$. Find *all* numbers c in $(-3, 0)$ guaranteed by the mean value theorem.

2. Suppose $f(x)$ is a function, and $f(90) = -10$ and $f'(90) = 7$. Based on this information, find the linear approximation $L(x)$ for $f(x)$ at 90. Then use it to find an approximate value of $f(91)$.

Name: ______________________________ Quiz 19 ♠ MATH 200

November 15, 2021

1. Consider $f(x) = x^3 - 2x + 4$ on $[0, 2]$. Find *all* numbers c in $(0, 2)$ guaranteed by the mean value theorem.

2. Suppose $f(x)$ is a function, and $f(50) = -20$ and $f'(50) = 7$. Based on this information, find the linear approximation $L(x)$ for $f(x)$ at 50. Then use it to find an approximate value of $f(51)$.