

This quiz is worth 10 points and you have 10 minutes to complete it.

Calculators are NOT allowed today.

1. (6 pts) Let $f(x)$ be the function defined below. Algebraically determine if f is left-continuous at $x = 2$ and/or if f is right-continuous at $x = 2$. Support your answer by comparing the left and right limits at $x = 2$ with the value of f at $x = 2$.

$$f(x) = \begin{cases} 3x + 2, & x < 2 \\ 4x^2 - 5, & x \geq 2. \end{cases}$$

2. (4 pts) Label each of the following statements as true (T) or false (F).

(a) **T F** If f changes sign at $x = 2$ and $f(2) \neq 0$, then f must be discontinuous at $x = 2$.

(b) **T F** If f is continuous on the interval $(1, 5)$, then f must have a global maximum value on $(1, 5)$.