

This quiz is worth 10 points and you have 10 minutes to complete it. Show all work and circle your final answers.

Calculators are NOT allowed today.

1. (4 points) Find the exact value of $\int_1^4 \frac{x+1}{\sqrt{x}} dx$. (Use the FTC, not a Riemann sum!)

2. (6 points) Consider the function $f(x) = 3x^2 + 5x - 2$. Write down each of the following quantities in terms of definite integrals. (DO NOT SOLVE THE INTEGRALS, JUST WRITE THEM DOWN.)

(a) The average value of the function $f(x)$ on the interval $[-3, 2]$.

(b) The signed area between the graph of $f(x)$ and the x -axis on $[-3, 2]$.

(c) The true area (counting all areas as positive areas) between the graph of $f(x)$ and the x -axis on $[-3, 2]$.