Take-home Quiz 6 **Calc 1** **Due 11/18/22**

Each problem is worth 5 points. Keep your answers correct to the nearest thousandth.

1. If you use a left-hand sum with $n = 3$ equal subdivisions to approximate $\int_1^4 \frac{1}{x}\,dx$, what are:

   $\Delta x =$
   $c_1 =$
   $c_2 =$
   $c_3 =$
   $f(c_1) =$
   $f(c_2) =$
   $f(c_3) =$
   $\sum_{i=1}^{3} f(c_i) \cdot \Delta x =$

2. If you use a right-hand sum with $n = 3$ equal subdivisions to approximate $\int_1^4 \frac{1}{x}\,dx$, what are:

   $\Delta x =$
   $c_1 =$
   $c_2 =$
   $c_3 =$
   $f(c_1) =$
   $f(c_2) =$
   $f(c_3) =$
   $\sum_{i=1}^{3} f(c_i) \cdot \Delta x =$

3. If you use a midpoint sum with $n = 4$ equal subdivisions to approximate $\int_1^3 \ln x \, dx$, what are:

$\Delta x =$

$c_1 =$

$c_2 =$

$c_3 =$

$c_4 =$

$f(c_1) =$

$f(c_2) =$

$f(c_3) =$

$f(c_4) =$

$\sum_{i=1}^{4} f(c_i) \cdot \Delta x =$

4. If you use a midpoint sum with $n = 5$ equal subdivisions to approximate $\int_0^1 \sin\left(x^2\right) \, dx$, what are:

$\Delta x =$

$c_1 =$

$c_2 =$

$c_3 =$

$c_4 =$

$c_5 =$

$f(c_1) =$

$f(c_2) =$

$f(c_3) =$

$f(c_4) =$

$f(c_5) =$

$\sum_{i=1}^{5} f(c_i) \cdot \Delta x =$