Quiz 1 MAC-2312 Fall 2019 **Name:** _____

To receive credit you MUST SHOW ALL YOUR WORK.

1. (3 pts) Find the average value of the function $f(x) = 1/x$ on the interval $1 \leq x \leq 3$.

2. (3 pts) Set up an integral that gives the area of the region bounded between the curves $x = 2 - y^2$, $y + x = 0$. You do NOT have to evaluate the integral. Computation is NOT required. Just the set up is required, but a picture of the region should be part of your work.

3. (6 pts) Evaluate each integral (3 pts each):

(a) $\int_{-1}^{1} t^3\sqrt{2+t^4}\,dt$

(b) $\int_{0}^{\pi/2} \dfrac{\cos x}{2+3\sin x}\,dx$