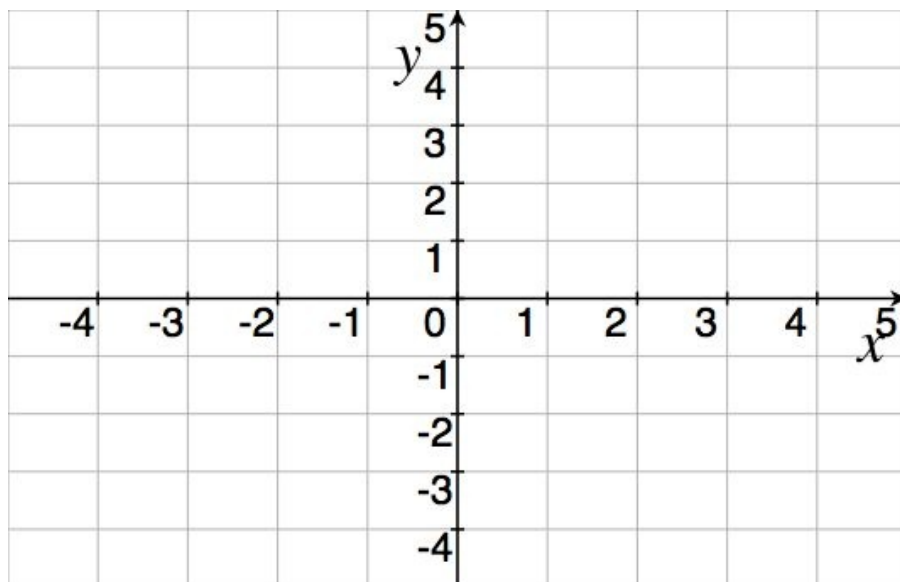# TMATH 125 Quiz 1

Show *all* your work (numerically, algebraically, or geometrically) for each and simplify. No credit is given without supporting work.

1. Let $f(x) = 2 - \sqrt{4 - x^2}$.

   (a) [2] Draw the graph of f.

   (b) [2] (§5.1#2) Use your graph to estimate the area under the graph of f from -2 to 2 using four rectangles. Indicate if you are using right endpoints, left endpoints, or midpoints in your estimation.

   (c) [2] (WebHW2#3) Find $\displaystyle\int_0^2 f(x)\,dx$

2. [2] (FTC Wks) Find $\dfrac{d}{dx}\left(\displaystyle\int_{1}^{1+3x}\dfrac{t^3}{1+t^2}\,dt\right)$.

3. [2] (WebHW3 #14) Evaluate $\displaystyle\int_{0}^{\frac{\pi}{4}}\sec(\theta)\tan(\theta)d\theta$.