

Name: _____

Quiz 6

Math 252

You have 20 minutes to complete this quiz and upload your work to Canvas. Write your answers on a separate sheet of paper and scan them with a scanning app. When you're finished, first check your work if there is time remaining, then turn it in. You may use a scientific calculator, but not a graphing one, and you may not consult other people or the internet. **Show all your work.**

1. (4 points) For a lamina bounded above by $f(x)$ on $[a, b]$, complete the formulas for the x - and y -moments and total mass.

$$M_x =$$

$$M_y =$$

$$m =$$

2. (8 points) Evaluate $\int x \sin^2(x) \, dx$.

3. (8 points) Define a lamina by the region below the graph of $f(x) = x^2$ between $x = 0$ and $x = 1$. Find the y -moment of the lamina.