

Name: _____

MA 2320 Quiz 4

1. Find the c that satisfies the Mean Value Theorem for $f(x) = x^3$ and $[a, b] = [1, 3]$.
2. Find the $s(t)$ and $v(t)$ if $a(t) = 1 - e^{2t}$ and $v(0) = 1$ and $s(0) = 11$.
3. Find the maximal $s(t)$ if $a(t) = -9.8$ and $v(0) = 40$ and $s(0) = 0$.
4. Define the region $y = x^3$ and $y = 4x$ in the first quadrant.
 - (a) Compute the area using a dx integral.
 - (b) Compute the area using a dy integral.
 - (c) Revolve the region about the x -axis and compute the volume of the solid.
 - (d) Revolve the region about the y -axis and compute the volume of the solid.
5. Define the region $y = 8 - x^2$, $y = 2x$ and $x = 0$ in the first quadrant.
 - (a) Compute the area using a dx integral.
 - (b) Compute the area using a dy integral.
 - (c) Revolve the region about the x -axis and compute the volume of the solid.
 - (d) Revolve the region about the y -axis and compute the volume of the solid.