

Instructions: This take-home quiz is due at the beginning of class on Friday. The work submitted on this quiz must be your own.

1. (3 points each) Let R be the region enclosed by $f(x) = 2\sin(x) + 4$ and $g(x) = 4$ on $[0, \pi]$. Set up integrals representing each of the following. You DO NOT need to evaluate these integrals.

(a) The solid formed by revolving R about the x -axis.

(b) The solid formed by revolving R about the y -axis.

(c) The solid formed by revolving R about the line $y = 8$

(d) The solid formed by revolving R about the line $x = 5$

(e) The arc length of $f(x)$ on $[0, \pi]$.