CALCULUS AB
SECTION II, Part A
Time—45 minutes
Number of problems—3

A graphing calculator is required for some problems or parts of problems.

---

1. Let R be the region in the first quadrant bounded by the graphs of $y = \sqrt{x}$ and $y = \dfrac{x}{3}$.

   (a) Find the area of R.

   (b) Find the volume of the solid generated when R is rotated about the vertical line $x = -1$.

   (c) The region R is the base of a solid. For this solid, the cross sections perpendicular to the y-axis are squares. Find the volume of this solid.

WRITE ALL WORK IN THE EXAM BOOKLET.

GO ON TO THE NEXT PAGE.