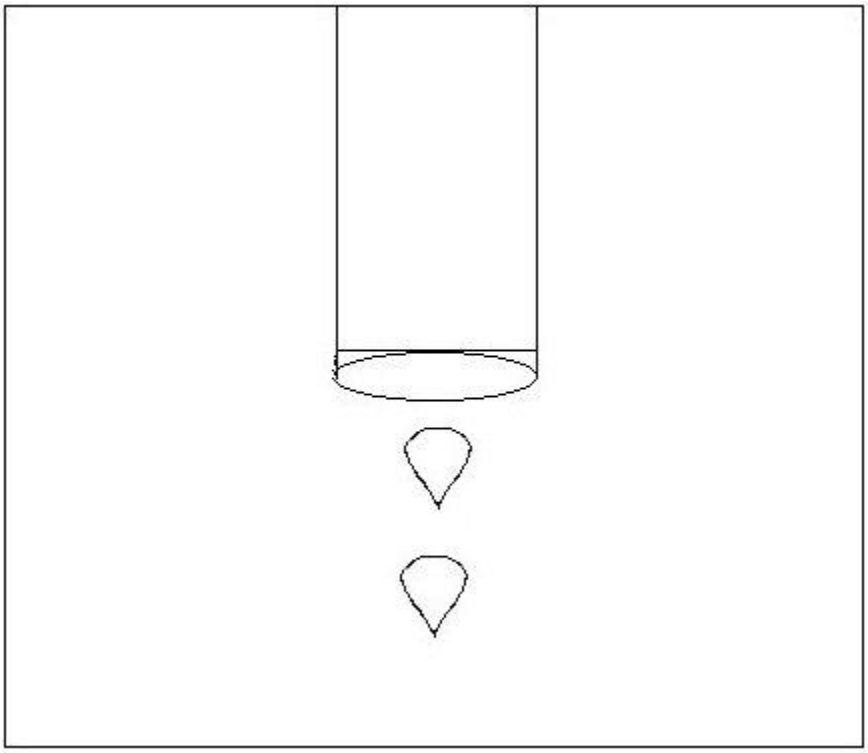
Droodle Review for the Test on Chapter 8

(Area Between 2 Curves, Length of Arc, and Volumes of Solids of Revolution)
A Puzzle by David Pleacher

Solve each of the problems below. Then find the answer and write down the corresponding consonant in the space to the left of the problem number. Now locate the numbers under the spaces in the Droodle title below and write the corresponding letters in the spaces. The un-numbered spaces are vowels, but you can't buy a vowel (what do you think this is, Wheel of fortune??)



___ ___

3 4 7 5 8 4 6 1 9 6 2

___ 1. Determine the area bounded by the parabola $y^2 = 4x$ and the line $y = 2x - 4$.

___ 2. Determine the area bounded by the parabolas $y = 6x - x^2$ and $y = x^2 - 2x$.

___ 3. Determine the length of the arc of the curve $y = x^{3/2}$ from $x = 0$ to $x = 5$.

___ 4. Determine the volume generated by revolving the region bounded by the parabola $y^2 = 8x$ and the line $x = 2$ about the y-axis.

___ 5. Determine the volume generated by revolving the region bounded by the parabola $y^2 = 8x$ and the line $x = 2$ about the line $x = 2$.

___ 6. Determine the volume generated by revolving the region bounded by the curves $y = 2x^2$, $y = 0$, $x = 0$, and $x = 5$ about the x-axis.

___ 7. Determine the volume generated by revolving the region bounded by the curves $y = 2x^2$, $y = 0$, $x = 0$, and $x = 5$ about the y-axis.

___ 8. Determine the volume generated by revolving the region in the first quadrant bounded by the curves $y^2 = 8x$, and $x = 2$ about the x-axis.

___ 9. Determine the volume generated by revolving the region bounded by the lines $y = 4 - x$, $x = 0$, and $y = 0$ about the y-axis.

Answers:

C. 16π
D. 8π
F. $\frac{256\pi}{15}$
G. $\frac{64}{3}$
H. 9
L. $\frac{64\pi}{3}$
M. $\frac{256\pi}{5}$
N. 2500π
R. 625π
T. $\frac{128\pi}{5}$
V. 1250π
W. $\frac{335}{27}$