

Name:
J#:
Date: 2017 June 28

Exercise Type (Cost):
In-Class (1AP)

Standard: This student is able to...	Mark:
C07: WashShell. Use the washer or cylindrical shell method to express a volume of revolution as a definite integral. <small>4/4</small>	
★ reattempt due on:	

Find a definite integral equal to the volume of the solid obtained by rotating the region bounded by $y = x$, $y = 2x$, $y = 2$ around the y -axis.

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Standard: This student is able to...	Mark:
C08: Work. Express the work done in a system as a definite integral.	
3/4	★ reattempt due on:

As a worker lifted a leaky sandbag from the ground, it lost sand weight at a constant rate. Assuming it weighed 20 pounds on the ground, and weighed 14 pounds after being lifted 2 feet, what work was required to lift the sandbag 2 feet? (Do not solve your integral.)

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Standard: This student is able to...	Mark:
S07: WorkDiff. Use the work differential to express the work done in pumping a tank of liquid as a definite integral.	
3/3	★ reattempt due on:

Assume salt water weighs $10kN/m^3$. Find an expression in terms of y for the work differential dW required to pump a cross-section of water at height y from a circular cylindrical tank with diameter length 4 meters and height 7 meters. Then give a definite integral equal to the work required to pump this tank if it was completely filled with salt water. (Do not solve your integral.)

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Standard: This student is able to...	Mark:
C09: Param. Parametrize planar curves and sketch parametrized curves.	
1/4	★ reattempt due on:

Parametrize the curve $x^2 + (y - 4)^2 = 9$ starting at the point $(7, 0)$ and rotating around the circle exactly once counter-clockwise.