

No calculators, cell phones, computers, notes, etc.

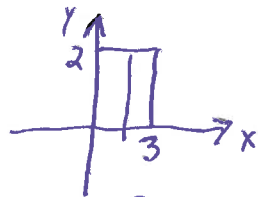
Circle your answer. Make your work correct, complete and coherent.

The quiz is worth 5 points. The solutions will be posted on my website later today.

Quiz 7, Nov. 21, 2017, 11:40 class

Find the volume of the solid in the first octant bounded by the coordinate planes, the plane $x = 3$, and the parabolic cylinder $z = 4 - y^2$.

$$\text{Vol} = \iint_{\text{base}} z_{\text{top}} dA = \iint 4 - y^2 dA = \int_0^3 \int_0^2 (4 - y^2) dy dx$$



$$= \int_0^3 \left[4y - \frac{y^3}{3} \right]_0^2 dx = \int_0^3 \left(8 - \frac{8}{3} \right) dx = \left(8 - \frac{8}{3} \right) x \Big|_0^3 = \left(8 - \frac{8}{3} \right) 3$$

$$= 24 - 8 = \boxed{16}$$

