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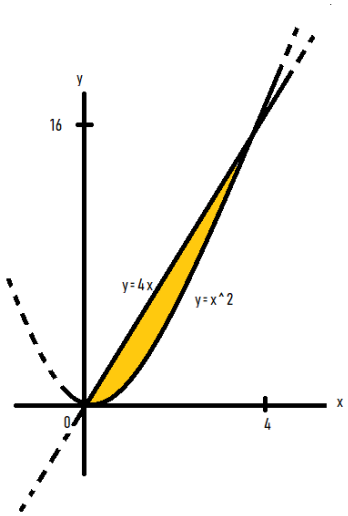
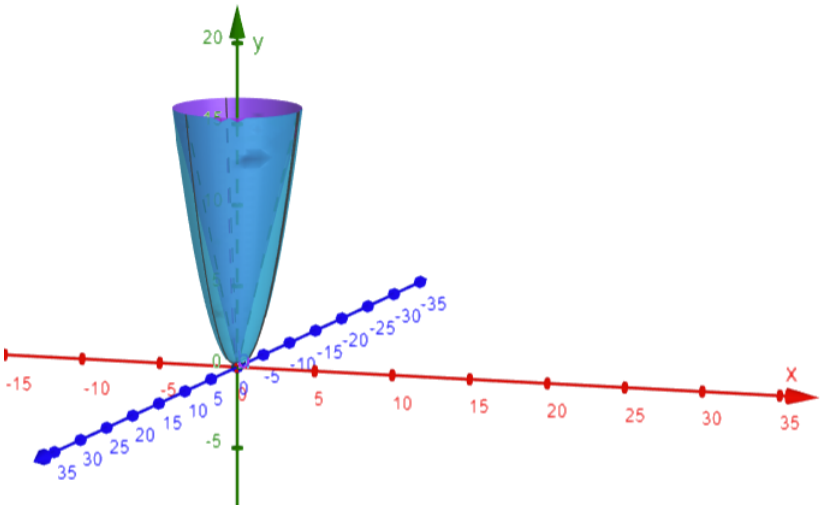
The objective of this question is to calculate the volume of solid generated by revolution of a planar region. As a hint, the region bounded by the curves and the solid of revolution is given below:



According to the question, we are supposed to revolve the region around the y-axis. On Revolving around the $y-$ axis, a solid of revolution is obtained.



Remember that, the volume of the solid of revolution formed by revolving the region around the y-axis is given by,

$\mathbf{V} = \pi \int_a^b f^2(y) - g^2(y)\, dy$, where $f(y)$ **is the curve on the right side** and $g(y)$ **is the curve on the left side** and $y \in [a, b]$.

In this case, the function on the right side is $f(y) = \sqrt{y}$ and the function on the left side is $g(y) = \dfrac{y}{4}$ and $y \in [0, 16]$.