A circle \( x^2 + y^2 = 36 \) is revolved about the line \( y = 14 \), find the volume generated.

The circle \( x^2 + y^2 = 36 \) has center \( (0,0) \) and radius of 6.

By Pappus theorem,

\[
\text{Volume} = A \times c \times 2\pi
\]

\[
A = \pi r^2 = \pi (6)^2 = 36\pi
\]

\[
R = \text{distance from center of circle to axis of rotation} = 14
\]

\[
\text{Volume} = 36\pi \times 14 \times 2\pi = 9,048.56
\]