1. Let R be the region bounded by \( y = x^2 + 1 \), \( y = 0 \), \( x = 1 \) and \( x = 2 \). Find the volume of the solid obtained by rotating the region R about the line \( x = -1 \).

2. 將曲線 \( y = x^3 \) 及 \( x = y^2 \) 所圍區域繞 x 軸旋轉體積。

3. (a) Find the volume of the solid generated by revolving the region between the y-axis and the curve \( x = \frac{2}{y} \), \( 1 \leq y \leq 4 \), about the y-axis.

(b) The region in the first quadrant enclosed by the parabola \( y = x^2 \), the y-axis and the line \( y = 1 \) is revolved about the line \( x = \frac{3}{2} \) to generate a solid. Find the volume of the solid.