1. **SET UP** the definite integral to find the area of the region bounded by \( y = x^2 - x \) and \( y = x + 3 \).

   \[ \text{limits: } x^2 - x = x + 3 \]
   \[ x^2 - 2x - 3 = 0 \]
   \[ (x - 3)(x + 1) = 0 \]
   \[ x = 3 - 1 \]

   \[ A = \int_{-1}^{3} (x + 3) - (x^2 - x) \, dx \]

2. **SET UP** the definite integral to find the volume of the solid of revolution generated by rotating the region bounded by the graphs of the equations \( x = y^2 \) and \( x = 1 \) about the line \( x = 1 \).

   \[ dV: \]
   \[ R \mid y) = 1 - y^2 \]

   \[ \text{limits: } \]
   \[ 1 = y^2 \]
   \[ \pm 1 = y \]

   \[ V = \pi \int_{-1}^{1} (1 - y^2)^2 \, dy \]

   \[ \text{or} \]
   \[ V = 2\pi \int_{0}^{1} (1 - y^2)^2 \, dy \]