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

   Top: \( y = 3 - x^2 \), Bottom: \( y = x + 1 \)

   Limits:
   \[
   3 - x^2 = x + 1 \\
   x^2 + x - 2 = 0 \\
   (x + 2)(x - 1) = 0 \\
   x = -2, 1
   \]

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

2. **SET UP** the definite integral to find the area of the region bounded by the graphs of the equations \( y = \ln x \), \( x = 0 \), \( y = 0 \) and \( y = 1 \).

   Limits: given \( y = 0 \) \( y = 1 \)
   \[
   \text{Right: } x = e \\
   \text{Left: } x = y - 1
   \]

   \[
   A = \int_{0}^{1} \left[ e^y - (y - 1) \right] \, dy
   \]
1. **SET UP** the definite integral to find the area of the region bounded by the graphs of the equations $y = 4 - x^2$ and $y = x^2 - 4x + 4$.

   \[ y = 4 - x^2 \]
   \[ y = x^2 - 4x + 4 \]

   **Top:** \( x \in [0, 2] \)
   
   **Bottom:** \( x \in [0, 2] \)

   \[ 4 - x^2 = x^2 - 4x + 4 \]
   \[ 2x^2 - 4x = 0 \]
   \[ 2x(x - 2) = 0 \]
   \[ x = 0, 2 \]

   \[ A = \int_0^2 [(4-x^2) - (x^2 - 4x + 4)] \, dx \]

2. **SET UP** the definite integral to find the area of the region bounded by the graphs of the equations $y = \ln x$, $x = y + 1$, $y = 0$ and $y = 1$.

   **Left:** \( x = y - 1 \)
   
   **Right:** \( x = e^y \)

   \[ A = \int_0^1 [e^y - (y - 1)] \, dy \]