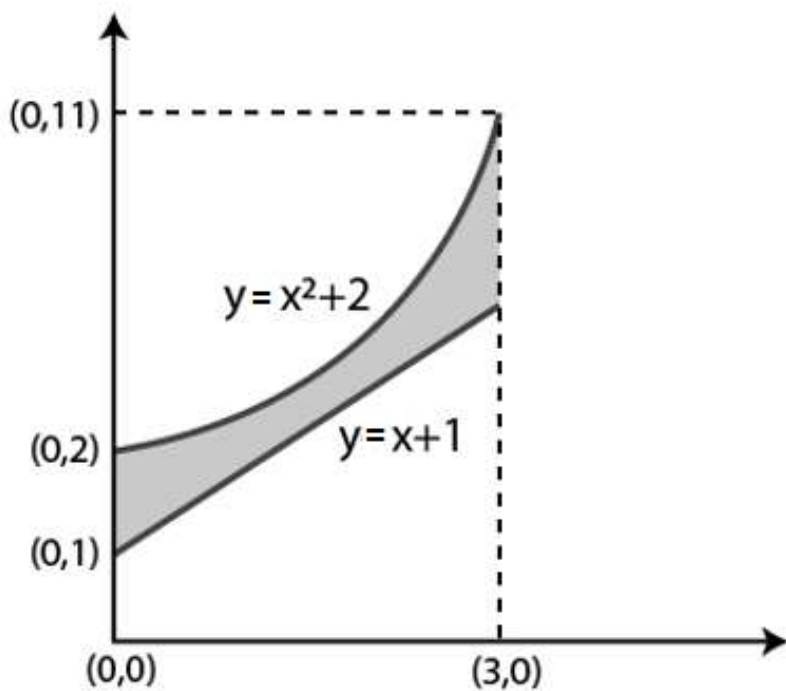


Question 11: Find the area of the region bounded by the parabola, $y = x^2 + 2$ and the lines, $y = x + 1$, $x = 0$ and $x = 3$.

Solution:

From the given equations, let us draw the point of intersection and region to find the area.



Required area =

$$\int_0^3 (x^2 + 2) - (x + 1) dx$$

=

$$\int_0^3 (x^2 - x + 1) dx$$

$$= 15/2$$