Que 3:

The area (in sq. units) of the region bounded by the parabola, $y = x^2 + 2$ and the lines, $y = x + 1$, $x = 0$ and $x = 3$, is :

[Main Jan. 12, 2019 (I)]

(a) $\frac{15}{4}$

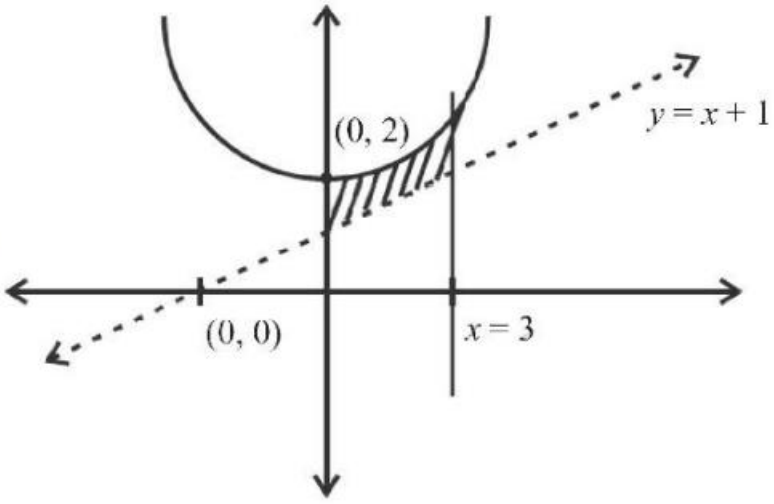
(b) $\frac{21}{2}$

(c) $\frac{17}{4}$

(d) $\frac{15}{2}$

solution:

(d)



Area of the bounded region $\int_0^3 [(x^2+2)-(x+1)]dx$

$$= \left[\frac{x^3}{3} - \frac{x^2}{2} + x\right]_0^3 = 9 - \frac{9}{2} + 3 = \frac{15}{2}$$