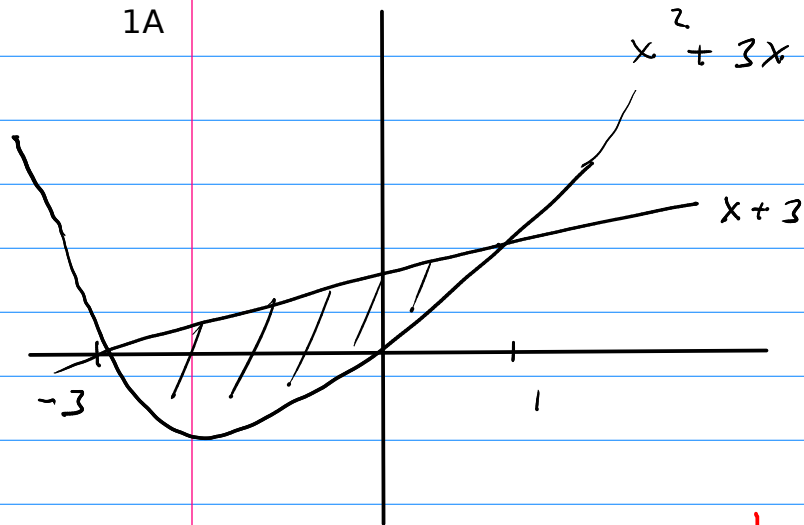


1A



$$x^2 + 3x = x + 3$$

$$x^2 + 2x - 3 = 0$$

$$(x-1)(x+3) = 0$$

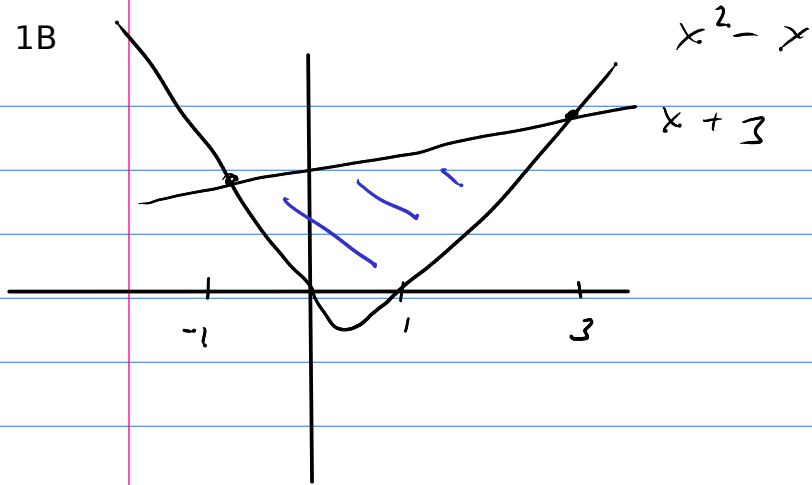
So Area = $\int_{\substack{\text{4pt} \\ -3}}^{\substack{\text{4pt} \\ 1}} [(x+3) - (x^2+3x)] dx$

$$= \int_{-3}^1 (-x^2 - 2x + 3) dx$$

$$= \left(-\frac{x^3}{3} - x^2 + 3x \right) \Big|_{-3}^1$$

$$= -\frac{1}{3} - 1 + 3 - \left(-\frac{(-3)^3}{3} - (-3)^2 + 3(-3) \right)$$

1B



$$x^2 - x = x + 3$$

$$x^2 - 2x - 3 = 0$$

$$(x+1)(x-3) = 0$$

$$\text{Area} = \int_{-1}^3 [(x+3) - (x^2-x)] dx$$

$$= \int_{-1}^3 (-x^2 + 2x + 3) dx$$

$$= \left(-\frac{x^3}{3} + x^2 + 3x \right) \Big|_{-1}^3$$

$$= -\frac{3^3}{3} + 3^2 + 3 \cdot 3 - \left(-\frac{(-1)^3}{3} + (-1)^2 + 3(-1) \right)$$

4 pt