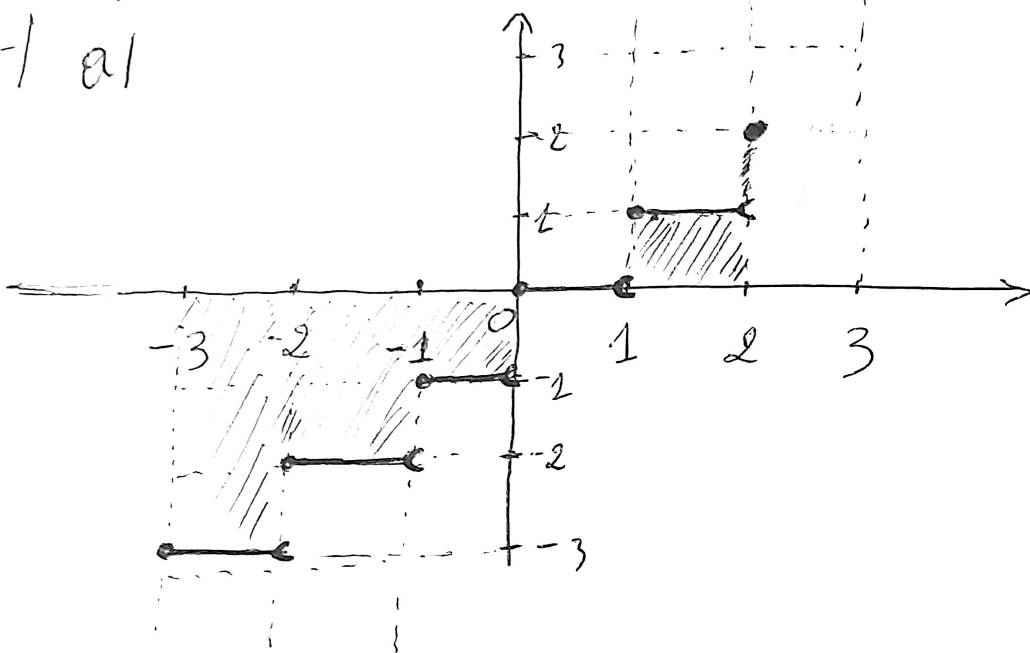


$$D = \{ (x, y) \mid 0 \leq y \leq f(x) \}$$

~~$$D = D' \cup D'' \cup D'''$$~~

$$1) D = [-3, 2]$$

2-1 a)



$$\begin{aligned}
 b) \int_D f(x) dx &= \int_{-3}^{-2} f(x) dx + \int_{-2}^{-1} f(x) dx + \int_{-1}^0 f(x) dx + \int_0^1 f(x) dx + \int_1^2 f(x) dx \\
 &= \int_{-3}^{-2} -3 dx + \int_{-2}^{-1} -2 dx + \int_{-1}^0 -1 dx + \int_0^1 0 dx + \int_1^2 1 dx \\
 &= [3x]_{-3}^{-2} + [2x]_{-2}^{-1} + [x]_{-1}^0 + 0 + [x]_1^2 \\
 &= (-6+9) + (-2+4) + (0+1) + (2-1) = 3+2+1+1 = 7
 \end{aligned}$$

$$A(D) = \left[ \int_D f(x) dx \right] \text{cm}^2 = 7 \text{cm}^2$$