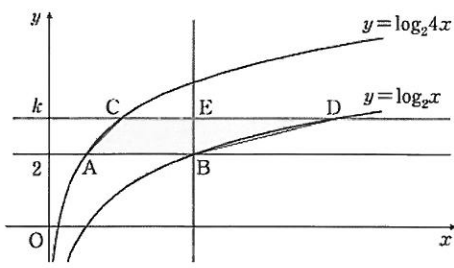


* 2019년 3월 시행 교육청 고3 수학 카형 27번.



$A(1, 2), B(4, 2)$

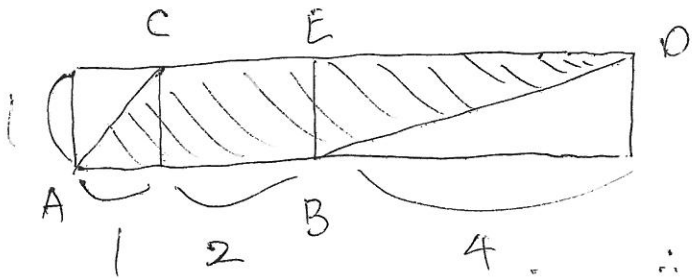
점 C의 x좌표를 t라 하면

$$\overline{CE} = 4 - t, \quad \overline{ED} = 8 - 2t, \quad \therefore \text{점 D의 x좌표는 } 12 - 2t.$$

$$\therefore C(t, 2 + \log_2 t) = (t, k).$$

$$D(12 - 2t, \log_2(12 - 2t)) \quad \therefore 4t = 12 - 2t \quad (0 < t < 6) \quad \text{이므로 } t = 2.$$

따라서 $C(2, 3), E(4, 3), D(8, 3)$



$$\therefore 7 \times 1 - \frac{1}{2} \times 1 \times 1 - \frac{1}{2} \times 1 \times 4 = 5 = \frac{9}{2}$$

$$\therefore 12S = 12 \times \frac{9}{2} = 54$$