$\boxed{43}$ $d(A,B) = \sqrt{(b_1-a_1)^2 + (b_2-a_2)^2}$

$A = (a_1, a_2) = \left(\frac{1}{2}t - \frac{1}{2}, \frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2}t\right)$

$B = (b_1, b_2) = (2-t, 0)$

$d(t) = \sqrt{\left(\frac{5}{2} - \frac{3}{2}t\right)^2 + \left(\frac{\sqrt{3}}{2} - \frac{\sqrt{3}}{2}t\right)^2} = \sqrt{3t^2 - 9t + 7}$ Dom $d = [0, +\infty)$

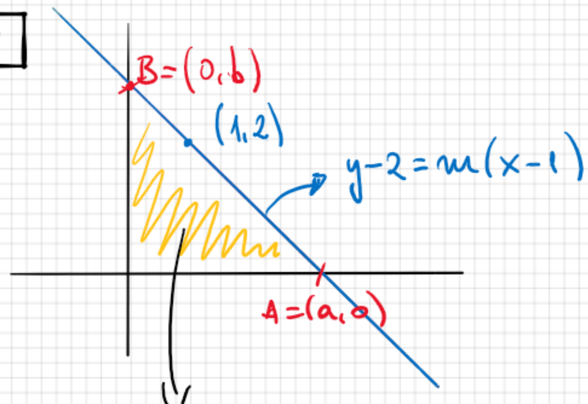
$d'(t) = \dfrac{6t-9}{2\sqrt{3t^2-9t+7}}$ $d' = 0 \iff 6t - 9 = 0 \iff t = \frac{3}{2}$

SIGNO d': 0 ... $-$ ... $3/2$ ... $+$

La función d alcanza su valor mínimo en $t = 1'5$ s

$d(1'5) = \sqrt{3 \cdot \frac{9}{4} - 9 \cdot \frac{3}{2} + 7} = \sqrt{\frac{27}{4} - \frac{54}{4} + \frac{28}{4}} = \frac{1}{4}$

$\boxed{44}$



ÁREA $= \frac{1}{2} a \cdot b$

$A \equiv \begin{cases} y = 0 \\ y - 2 = m(x-1) \end{cases}$ $\Downarrow$ $-2 = mx - m$; $m - 2 = mx$; $x = \frac{m-2}{m}$ $\Downarrow$ $A = \left(\frac{m-2}{m}, 0\right)$

$B \equiv \begin{cases} x = 0 \\ y - 2 = m(x-1) \end{cases}$ $\Downarrow$ $y - 2 = -m$; $y = 2 - m$ $\Downarrow$ $B = (0, 2-m)$

ÁREA $= A(m) = \frac{1}{2} \cdot \frac{m-2}{m} \cdot (2-m) = -\frac{1}{2} \frac{(m-2)^2}{m}$

$A'(m) = -\frac{1}{2} \cdot \frac{2(m-2)m - (m-2)^2}{m^2} = -\frac{1}{2} \cdot \frac{m^2-4}{m^2} = \frac{4-m^2}{2m^2}$

$A' = 0 \iff m = \pm 2$

SIGNO A': $-$ ... -2 ... $+$ ... 2 ... $-$

(Para que se forme un triángulo en el primer cuadrante, m tiene que ser negativa)

En $m = -2$, la función A alcanza su valor mínimo

La recta buscada es $y - 2 = -2(x-1)$

$y = -2x + 4$