$$y(x) = ax^2 + bx + c \Rightarrow y = a \cdot \left[x^2 + \frac{b}{a}x + \frac{c}{a} \right]$$

$$x^2 + px + q = \left(x + \frac{p}{2} \right)^2 + q - \frac{p^2}{4}$$

$$y(x) = a \cdot (x-r)^2 + k \Rightarrow T(r, k)$$

+ ise $\cup$ $-$ ise $\cap$

$$\Rightarrow y = 3x^2 = 3 \cdot (x-0)^2 + 0 \Rightarrow T(0,0)$$

$$\Rightarrow y = x^2 - 4x + 9$$
$$= \overset{+}{\underset{\cup}{}} (x-2)^2 + 5 \Rightarrow T(2,5)$$

x-eksenini kestiği nokta için y=0
$$\left(\begin{array}{l} 0 = x^2 - 4x + 9 \Rightarrow \Delta < 0 \\ x-\text{eksenini kesmez} \end{array} \right)$$

y-eksenini kestiği nokta için x=0
$$y = x^2 - 4x + 9 \Rightarrow \boxed{y = 9}$$
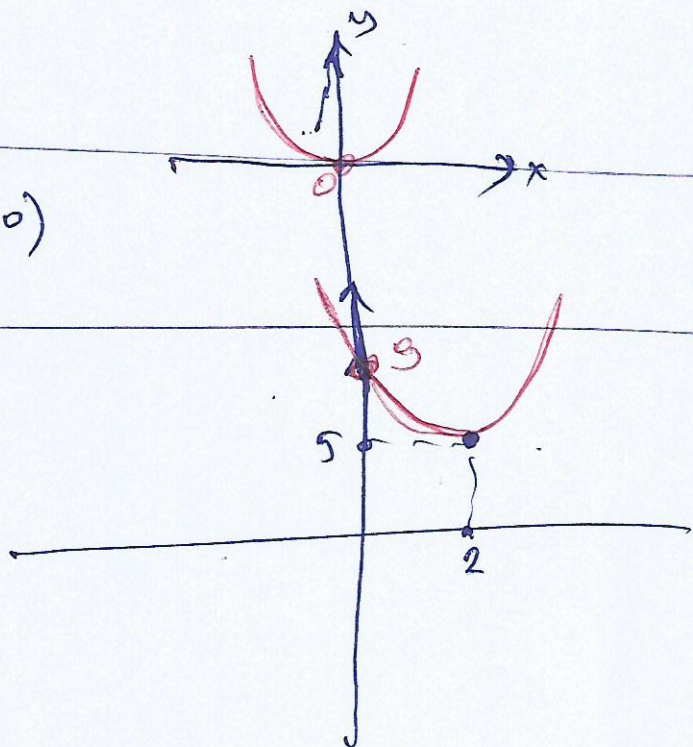
$$\Rightarrow y = -x^2 + 4x + 5 \Rightarrow$$
$$= \cdot - \left[x^2 - 4x - 5 \right]$$
$$= - \left[(x-2)^2 - 9 \right]$$
$$= \underset{\cap}{\overset{-}{}} (x-2)^2 + 9 \Rightarrow T(2,9)$$

$$T(2,9)$$
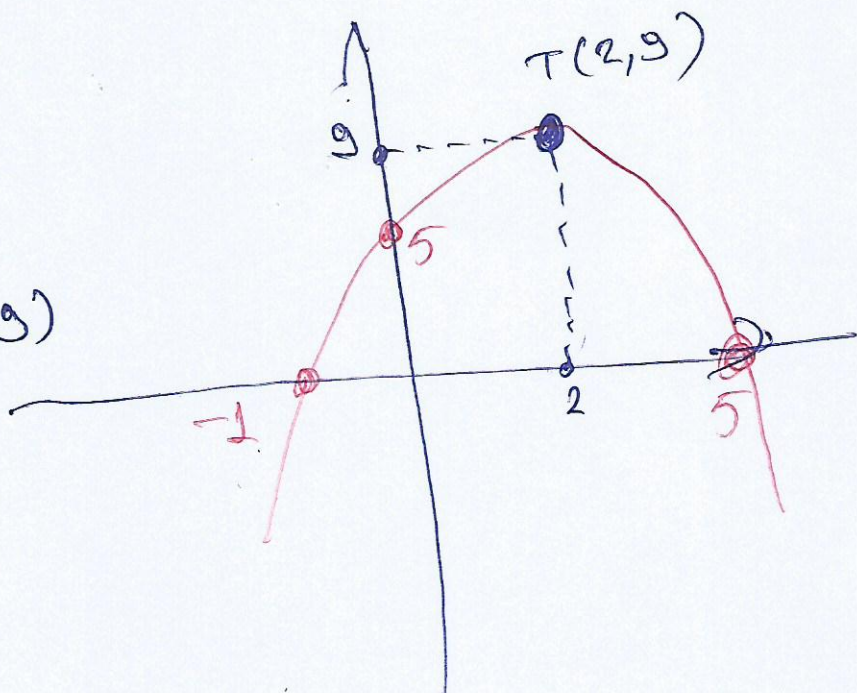
X-eks. kestiği nokta:
y=0 için $-x^2 + 4x - 5 = 0$
$$\boxed{x = -1} \quad x = 5$$

y-eks. kestiği nokta
$$\text{x=0 için } y = 5$$

$\Rightarrow$ $y^2 = \frac{1}{2}x$ ve $y = \frac{x}{2} - 2$ eğrileri ile SBA?

$y^2 = \frac{1}{2}x \Rightarrow x = 2y^2$
$y = \frac{x}{2} - 2 \Rightarrow x = 2y + 4$ $\Biggr\} \Rightarrow$

Kesim noktaları:

$2y^2 = 2y + 4$
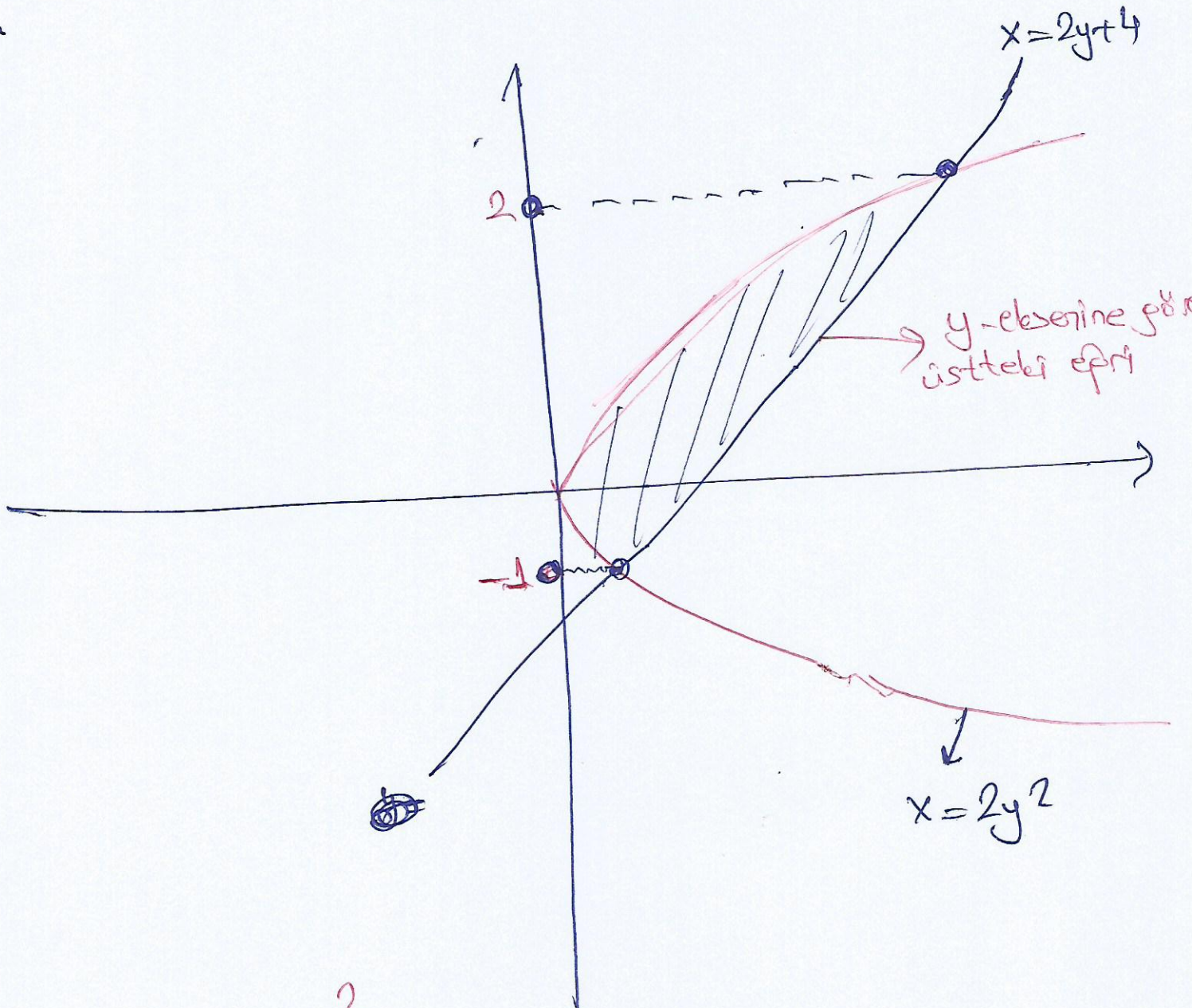$2y^2 - 2y - 4 = 0 \Rightarrow$ $2 \cdot (y^2 - y - 2) = 0$
 $-2 \cdot +1$

$\boxed{y = 2}$ ve $\boxed{y = -1}$

Kesim noktaları

$x = 2 \cdot (y - 0)^2 + 0 \Rightarrow T(0,0)$

$x = 2y + 4$

$\rightarrow$ y-eksenine gör
üstteki eğri

$x = 2y^2$

$$A = \int_{-1}^{2} \left[(2y + 4) - 2y^2 \right] \cdot dy$$

$\Rightarrow$ $y = x^2$ ile $y = 4x + 12$ eğrileri ile sınırlandırılan bölgenin alanı?

SBA? ③

$y = x^2 = 0, (x-0)^2 + 0 \Rightarrow T(0,0)$
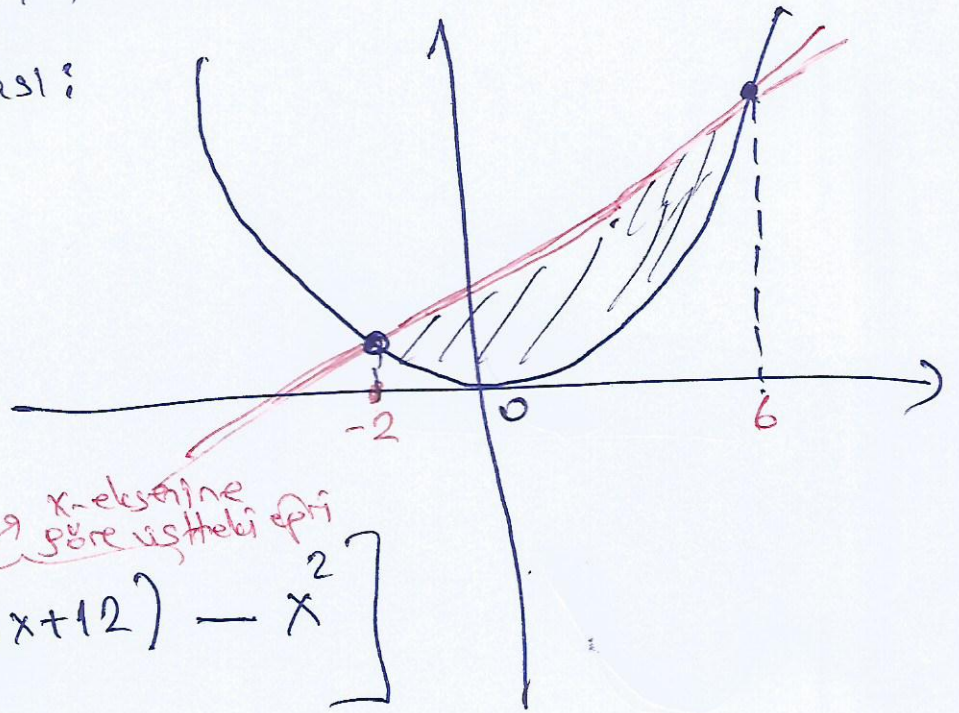
İki eğrinin kesim noktası:

$x^2 = 4x + 12$

$x^2 - 4x - 12 = 0$

$-6 \cdot 2$

$\boxed{x = 6}$ $\boxed{x = -2}$

integ. sınırları.

$$A = \int_{-2}^{6} \left[(4x + 12) - x^2 \right]$$
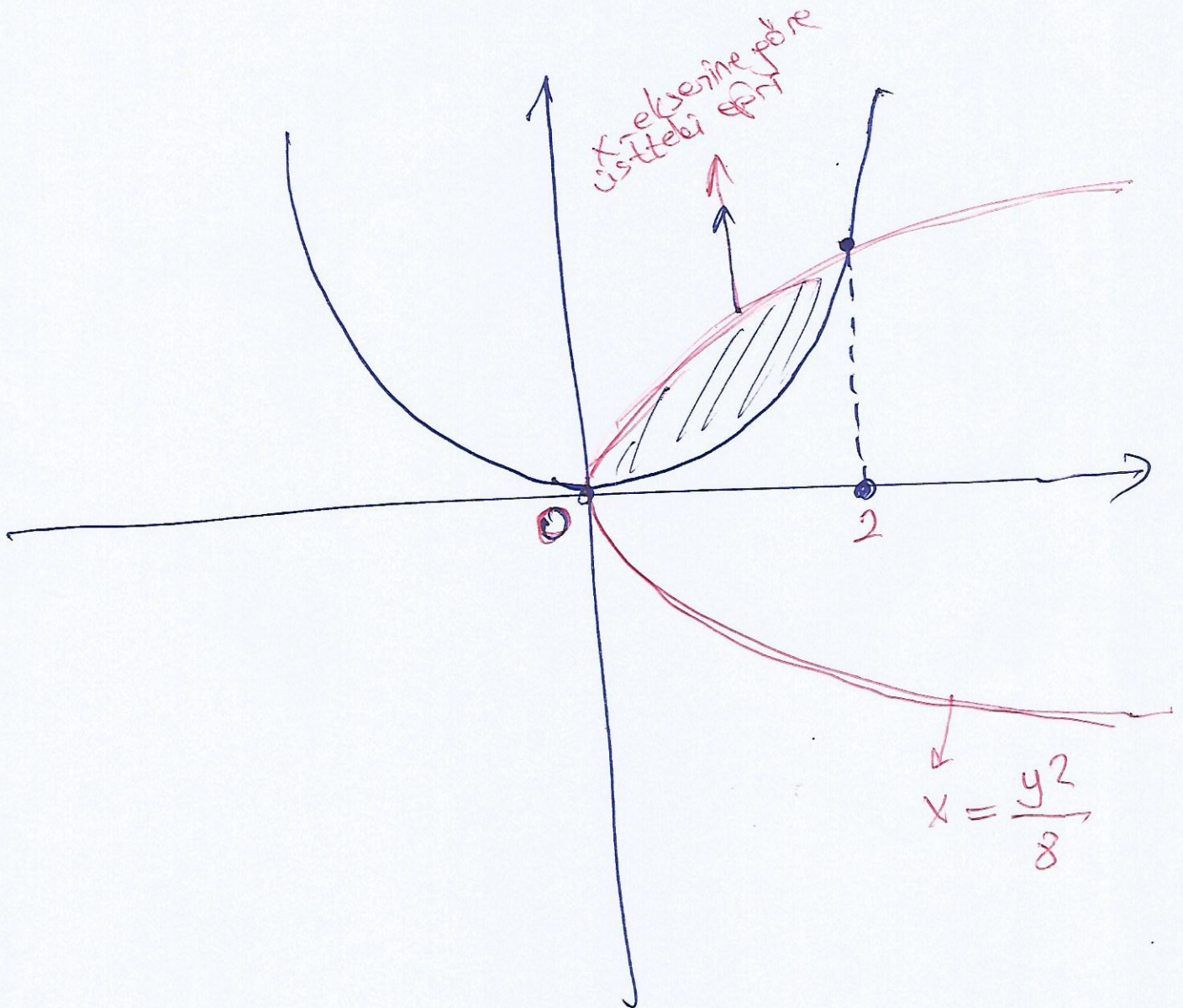
x-eksenine göre üstteki eğri

⇒ $y = x^2$ ve $y^2 = 8x$ eğrileri ile SBA?

Kesim noktaları :

$\left. \begin{array}{l} y = x^2 \Rightarrow y^2 = x^4 \\ y^2 = 8x \end{array} \right\} \Rightarrow x^4 = 8x \Rightarrow x^4 - 8x = 0 \Rightarrow x \cdot (x^3 - 2) = 0$

$\boxed{x = 0}$ $\boxed{x = 2}$

x eksenine göre üstteki eğri

$x = \dfrac{y^2}{8}$

$$A = \int_0^2 \left[\sqrt{8x} - x^2 \right] \cdot dx = \frac{8}{3} \ br^2$$

$\Rightarrow$ $y = x^2 - x$ ve $y = -x^2 + 5x$ eğrileri ile SBA?

Kes. noktaları:

$x^2 - x = -x^2 + 5x$

$2x^2 - 6x = 0 \Rightarrow 2x \cdot (x - 3) = 0$

$\boxed{x = 0}$ ve $\boxed{x = 3}$

$y = x^2 - x = (x - \frac{1}{2})^2 + ⓪ - \frac{1^2}{4}$

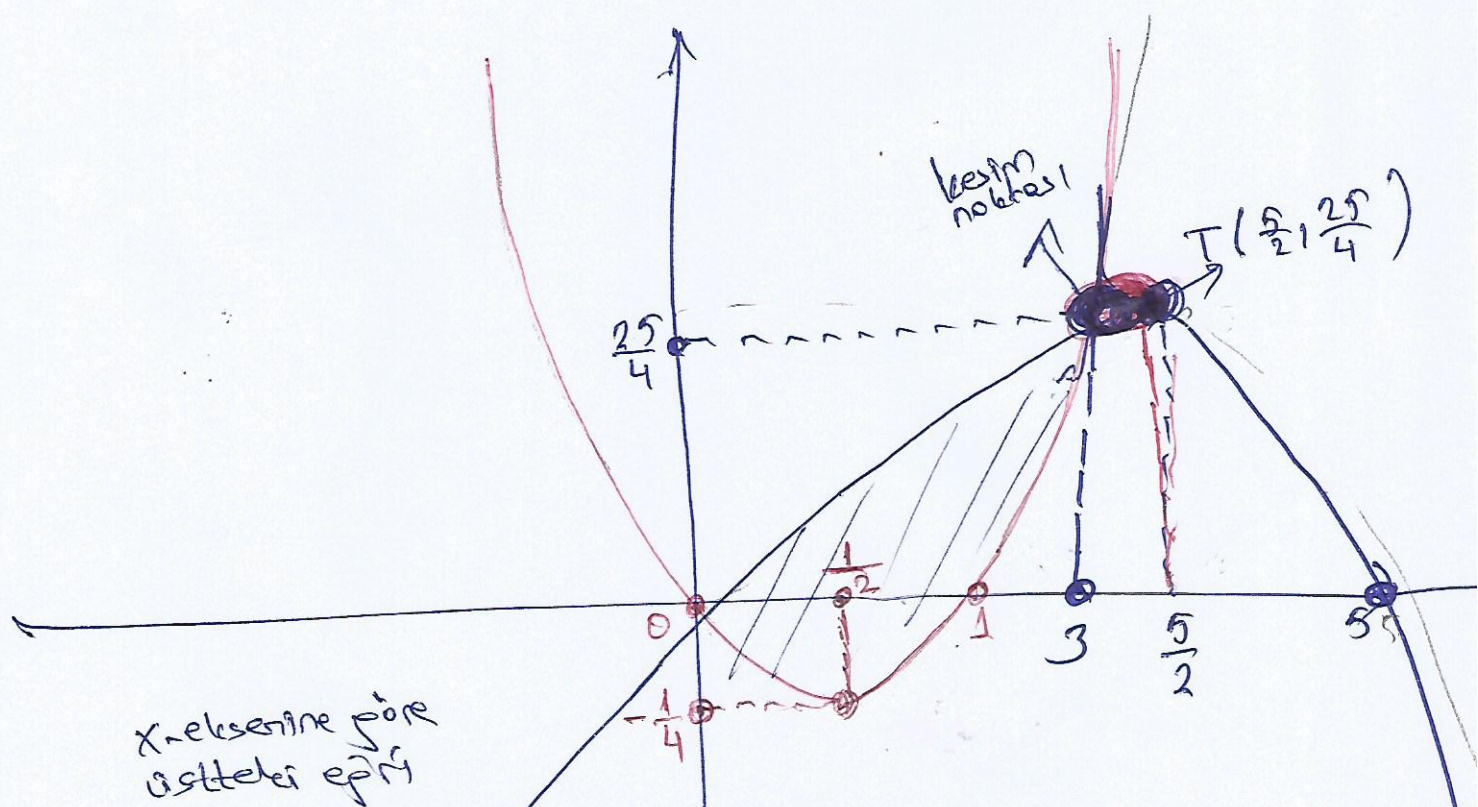$y = x^2 - x = +(x - \frac{1}{2})^2 - \frac{1}{4} \Rightarrow T(\frac{1}{2}, -\frac{1}{4})$

x-eks. test. nokta: $x^2 - x = 0 \Rightarrow \boxed{x = 0}, \boxed{x = 1}$

$y = -x^2 + 5x = -\left[x^2 - 5x\right]$

$= -\left[(x - \frac{5}{2})^2 + 0 - \frac{25}{4}\right]$

$= -(x - \frac{5}{2})^2 + \frac{25}{4} \Rightarrow T(\frac{5}{2}, \frac{25}{4})$

x-eks. test. nokta: $-x^2 + 5x = 0 \Rightarrow -x(x - 5) = 0 \Rightarrow \boxed{\begin{array}{c} x = 0 \\ x = 5 \end{array}}$

kesim
noktası

$T(\frac{5}{2}, \frac{25}{4})$

$\frac{25}{4}$

O ⋅ $\frac{1}{2}$ ⋅ 1 ⋅ 3 ⋅ $\frac{5}{2}$ ⋅ 5

$-\frac{1}{4}$

X-eksenine göre üstteki eğri

$A = \int_0^3 \left[(-x^2 + 5x) - (x^2 - x)\right] \cdot dx$

alttaki eğri