

$$\cdot (x - 30) \quad , \quad - ( \quad ) x - \quad .$$

$$\frac{100 - 20}{100} \cdot x = 0.8x \quad - 20\% - \quad \quad \quad (1)$$

$$\cdot 0.8x \quad :$$

$$\frac{100 - 30}{100} \cdot (x - 30) = 0.7(x - 30) = 0.7x - 21 \quad - 30\% - \quad \quad \quad (2)$$

$$\cdot (0.7x - 21) \quad :$$

$$\cdot 264 , \quad , \quad .$$

$$\cdot 0.8x + 0.7x - 21 = 264 :$$

$$:$$

$$0.8x + 0.7x - 21 = 264 / +21$$

$$1.5x = 285 \quad / :1.5$$

$$\boxed{x = 190} \quad \rightarrow \quad \boxed{x - 30 = 160}$$

$$\cdot 160 \quad , \quad 190 \quad :$$

$$\cdot 190 + 160 = 350 \quad , \quad , \quad .$$

$$\cdot 350 - 264 = 86$$

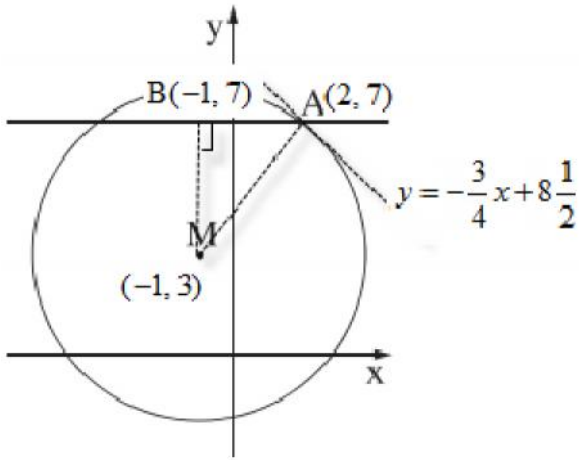
$$\cdot 86 \quad :$$

• (5 M(-1, 3) , )  $(x+1)^2 + (y-3)^2 = 25$  .

•  $x_A > 0, y_A = 7$  ,

$y = 7$  A

$y = 7$



$(x+1)^2 + (7-3)^2 = 25$

$(x+1)(x+1) + 16 = 25$

$x^2 + x + x + 1 + 16 = 25$

$x^2 + 2x - 8 = 0$

$x_{1,2} = \frac{-2 \pm 6}{2}$

$x_A = 2 \rightarrow \boxed{A(2, 7)}$ ,  ~~$x_A = -4$~~   $\leftarrow x_A > 0$

• A(2, 7) :

• M(-1, 3) , A(2, 7) :

( ) MA

$m_{MA} = \frac{7-3}{2-(-1)} = \frac{4}{3} = 1\frac{1}{3}$

•  $1\frac{1}{3}$  MA :

$m_{mashik} = \frac{-1}{1\frac{1}{3}} = -\frac{3}{4}$  ,  $m_{MA} \cdot m_{mashik} = -1$  :

A(2, 7),  $m_{mashik} = -\frac{3}{4} \rightarrow \cdot y - 7 = -\frac{3}{4}(x - 2) \rightarrow y - 7 = -\frac{3}{4}x + \frac{3}{2} \rightarrow \boxed{y = -\frac{3}{4}x + 8\frac{1}{2}}$

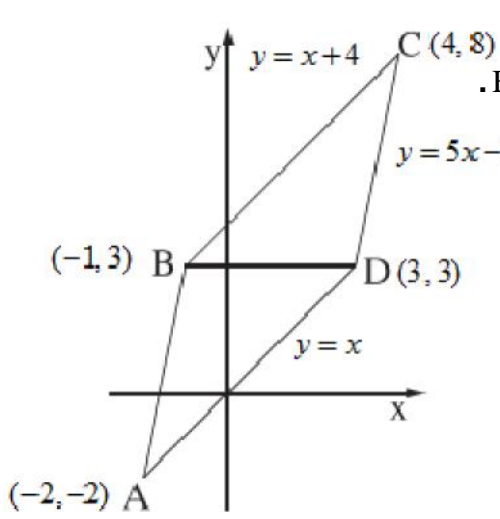
•  $y = -\frac{3}{4}x + 8\frac{1}{2}$  A :

• AB MB ,  $\Delta AMB$  .

•  $AB = 2 - (-1) = 3$ ,  $BM = 7 - 3 = 4$  : (-1, 7) B

$S_{\Delta AMB} = \frac{AB \cdot MB}{2} = \frac{3 \cdot 4}{2} = 6$

• " 6  $\Delta AMB$  :



•  $y_D = y_B = 3$  ,  $x$ -  
 •  $(3, 3)$  D  $y = x$  AD  
 •  $D(3, 3)$  :

•  $m_{DC} = m_{AB}$  ,  
 •  $B(-1, 3)$  ,  $A(-2, -2)$  : AB

$$m_{AB} = \frac{3 - (-2)}{-1 - (-2)} = \frac{5}{1} = 5$$

•  $D(3, 3)$   $m_{DC} = 5$  , DC

$$y - 3 = 5(x - 3)$$

$$y - 3 = 5x - 15 \quad / +3$$

$$\boxed{y = 5x - 12}$$

•  $y = 5x - 12$  , DC , :

• DC BC , C

$$, m_{BC} = m_{AD} = 1$$

•  $B(-1, 3)$   $m_{BC} = 1$  , BC

$$y - 3 = 1(x - (-1))$$

$$y - 3 = x + 1 \quad / +3$$

$$\boxed{y = x + 4}$$

$$C \begin{cases} y = x + 4 \\ y = 5x - 12 \end{cases}$$

$$x + 4 = 5x - 12 \quad / -5x - 4$$

$$-4x = -16 \quad / :(-4)$$

$$x = 4 \rightarrow y = 4 + 4 = 8 \rightarrow \boxed{C(4, 8)}$$

•  $C(4, 8)$  :

$$f(x) = 6x - 12\sqrt{x}$$

$$f'(x) = 6 - \frac{6}{\sqrt{x}}$$

$$x \geq 0$$

$$f'(x) = 6 - \frac{6}{\sqrt{x}}$$

$$0 = 6 - \frac{6}{\sqrt{x}} \quad | \cdot \sqrt{x}$$

$$0 = 6\sqrt{x} - 6$$

$$6 = 6\sqrt{x} \quad | :6$$

$$1 = \sqrt{x}$$

$$\boxed{x=1} \rightarrow f(1) = 6 \cdot 1 - 12\sqrt{1} = -6 \rightarrow \boxed{(1, -6)}$$

$$f'(0.5) = 6 - \frac{6}{\sqrt{0.5}} < 0, \quad f'(2) = 6 - \frac{6}{\sqrt{2}} > 0$$

0	0.5	1	2	$x$
	-	0	+	$f'(x)$
	↘	<b>Min</b>	↗	

$$(1, -6)$$

$$(0, 0), \quad f(0) = 6 \cdot 0 - 12\sqrt{0} = 0$$

$$(0, 0)$$

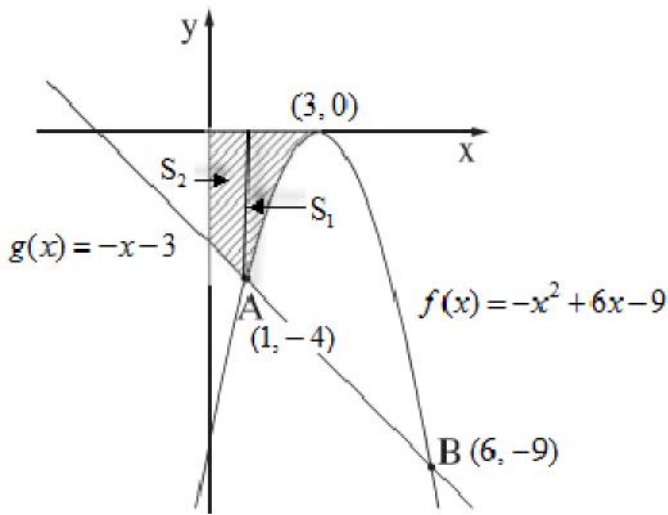
$$y = -6$$

$$(1, -6)$$

$$(-7)$$

$$(-7)$$

$$g(x) = -x - 3, \quad f(x) = -x^2 + 6x - 9$$



$$\begin{cases} y = -x^2 + 6x - 9 \\ y = -x - 3 \end{cases}$$

$$-x - 3 = -x^2 + 6x - 9$$

$$x^2 - 7x + 6 = 0$$

$$x_{1,2} = \frac{-(-7) \pm \sqrt{(-7)^2 - 4 \cdot 1 \cdot 6}}{2 \cdot 1}$$

$$x_{1,2} = \frac{7 \pm 5}{2}$$

$$x_1 = \frac{7+5}{2} = \frac{12}{2} = 6 \rightarrow y = -6 - 3 = -9 \rightarrow \boxed{B(6, -9)}$$

$$x_2 = \frac{7-5}{2} = \frac{2}{2} = 1 \rightarrow y = -1 - 3 = -4 \rightarrow \boxed{A(1, -4)}$$

. B(6, -9) , A(1, -4) :

$$f(x) = -x^2 + 6x - 9$$

$$\left. \begin{aligned} x_{\text{kodkod}} &= -\frac{b}{2a} = -\frac{6}{2 \cdot (-1)} = 3 \\ y_{\text{kodkod}} &= -3^2 + 6 \cdot 3 - 9 = 0 \end{aligned} \right\} \boxed{(3, 0)}$$

. (3, 0) :

$$S_2 = \int_0^1 (0 - (-x - 3)) dx$$

$$S_2 = \int_0^1 (x + 3) dx$$

$$S_2 = \left[ \frac{x^2}{2} + 3x \right]_0^1$$

$$S_2 = \left( \frac{1^2}{2} + 3 \cdot 1 \right) - \left( \frac{0^2}{2} + 3 \cdot 0 \right)$$

$$S_2 = 3\frac{1}{2} - 0 \rightarrow \boxed{S_2 = 3\frac{1}{2}}$$

$$S_1 = \int_1^3 (0 - (-x^2 + 6x - 9)) dx$$

$$S_1 = \int_1^3 (x^2 - 6x + 9) dx$$

$$S_1 = \left[ \frac{x^3}{3} - \frac{6x^2}{2} + 9x \right]_1^3$$

$$S_1 = \left( \frac{3^3}{3} - \frac{6 \cdot 3^2}{2} + 9 \cdot 3 \right) - \left( \frac{1^3}{3} - \frac{6 \cdot 1^2}{2} + 9 \cdot 1 \right)$$

$$S_1 = 9 - 6\frac{1}{3} \rightarrow \boxed{S_1 = 2\frac{2}{3}}$$

$$S = S_1 + S_2 = 2\frac{2}{3} + 3\frac{1}{2} = 6\frac{1}{6} :$$

. "  $6\frac{1}{6}$  :

$AB = (60 - 2x)$      $BC = 2x$     ,  $AB + BC = "$  60 .

.  $AB = 60 - 2x$  :

.  $2x \cdot (60 - 2x) = 120x - 4x^2$  :

.  $x \cdot (60 - 2x) = 60x - 2x^2$  :

$120x - 4x^2 + 60x - 2x^2 = 180x - 6x^2$  :

.  $180x - 6x^2$  :

**מקסימום סכום שטחי המלבנים**

$S(x) = 180x - 6x^2$  :

$S'(x) = 180 - 12x$

$0 = 180 - 12x$

$12x = 180 \quad /:12$

$x = 15$

:

$S'(14) = 180 - 12 \cdot 14 > 0$  ,  $S'(16) = 180 - 12 \cdot 16 < 0$

0	14	15	16	$x$
	+	0	-	$S'(x)$
	↖	<b>Max</b>	↘	

.  $x = 15$  :

