

35803

17

$x : \dots$
 $- 2x$

()		()	
$24x$	x	24	
$27 \cdot 2x = 54x$	$2x$	27	

$\cdot 6,162$

$24x + 54x = 6162$

$78x = 6162 \quad /:78$

$x = 79$

79

$\cdot 27 - 24 = 3 -$

$\cdot \frac{3}{24} \cdot 100\% = 12.5\%$

$\cdot 12.5\% - ,$

$\cdot 2x = 2 \cdot 79 = 158$

(1)

$\cdot 27 \cdot 158 = 4266 ,$

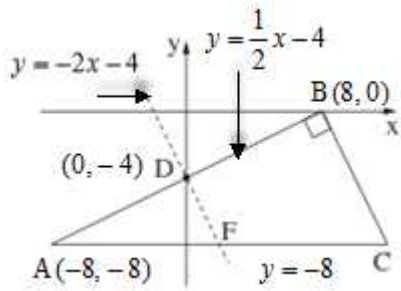
$4,266$

$\cdot 24 \cdot 79 = 1,896$

(2)

$\cdot \frac{4266}{1896} = 2.25$

2.25



. $y_B = 0$. $x =$. B .

. $y = \frac{1}{2}x - 4$: AB $y = 0$

$$0 = \frac{1}{2}x - 4$$

$$4 = \frac{1}{2}x \quad / : \left(\frac{1}{2}\right)$$

$$x = 8 \rightarrow \boxed{B(8, 0)}$$

. $x_D = 0$, $y =$. D

$$. y_D = \frac{1}{2} \cdot 0 - 4 = -4$$

. D(0, -4) , B(8, 0) :

. AB . D .

$$-4 = \frac{0 + y_A}{2} \quad / \cdot 2$$

$$0 = \frac{8 + x_A}{2} \quad / \cdot 2$$

$$-8 = y_A$$

$$0 = 8 + x_A$$

$$x_A = -8$$

. A(-8, -8) :

. BC . D(0, -4) - .

($m_{AB} \cdot m_{BC} = -1 \leftarrow AB \perp BC$) . (-2) BC $\frac{1}{2}$ AB

. (-2) D(0, -4) - ,

$$y - (-4) = -2(x - 0)$$

$$y + 4 = -2x$$

$$y = -2x - 4$$

. $y = -2x - 4$:

• $y = -8$, • $A(-8, -8)$ x - AC (1) .

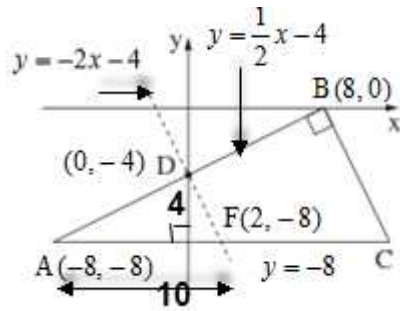
• $y = -2x - 4$ $y = -8$

$-8 = -2x - 4$

$2x = 4 \quad / : 2$

$x = 2 \rightarrow \boxed{F(2, -8)}$

• $F(2, -8)$:



• ΔADF (2)

• y - AC

$AF = x_F - x_A = 2 - (-8) = 10$

$h = -4 - (-8) = 4$

$S_{\Delta ADF} = \frac{AF \cdot h}{2} = \frac{10 \cdot 4}{2} = 20$

• " 20 ΔADF :

• 5 M(3, 0)
 • A(-2, 0)

, $(x-3)^2 + y^2 = 25$
 • B(8, 0)

• B(8, 0), A(-2, 0) :

• $y_C < 0$ C, $x_C = -1$

$x = -1$

$(-1-3)^2 + y^2 = 25$

$16 + y^2 = 25$

$y^2 = 9$

$y = -3 \leftarrow y_C < 0$

• C(-1, -3) :

• $m_{MC} = \frac{0 - (-3)}{3 - (-1)} = \frac{3}{4}$

MC

• $m_{\text{mashik}} \cdot m_{MC} = -1$:

• $m_{\text{mashik}} = -\frac{4}{3}$ ()

• $-\frac{4}{3} = -1\frac{1}{3}$ ()

• C(-1, -3)

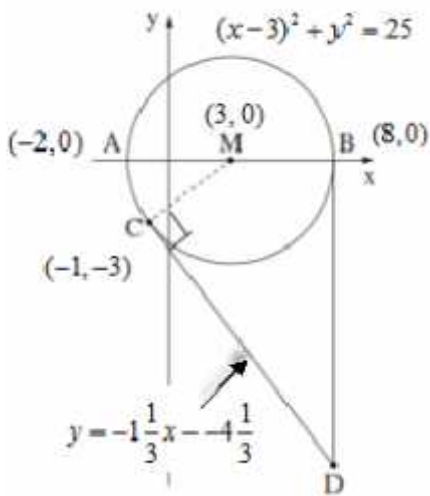
$y - (-3) = -1\frac{1}{3}(x - (-1))$

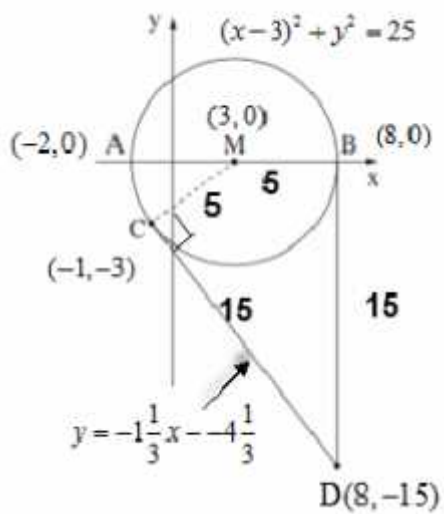
$y + 3 = -1\frac{1}{3}(x + 1)$

$y + 3 = -1\frac{1}{3}x - 1\frac{1}{3}$

$y = -1\frac{1}{3}x - 4\frac{1}{3}$

• $y = -1\frac{1}{3}x - 4\frac{1}{3}$:





• $x_D = x_B = 8$, $y =$ BD .

• $y = -1\frac{1}{3}x - 4\frac{1}{3}$ $x = 8$

• $D(8, -15) :$ • $y = -1\frac{1}{3} \cdot 8 - 4\frac{1}{3} = -15$

• BMCD

• $BM = MC = R = 5$

$BD = y_B - y_D = 0 - (-15) = 15$

$DC = \sqrt{(8 - (-1))^2 + (-15 - (-3))^2} = \sqrt{81 + 144} = \sqrt{225} = 15$

• $5 + 5 + 15 + 15 = 40$

• 40 BMCD :

$$f(x) = 3x - 6\sqrt{x} + 7$$

$x \geq 0$:

$x \geq 0$:

$$f'(x) = 3 - \frac{3}{\sqrt{x}}$$

$$0 = 3 - \frac{3}{\sqrt{x}} \quad | \cdot \sqrt{x}$$

$$0 = 3\sqrt{x} - 3$$

$$3 = 3\sqrt{x} \quad | :3$$

$$1 = \sqrt{x}$$

$$\boxed{x=1} \rightarrow f(1) = 3 \cdot 1 - 6\sqrt{1} + 7 = 4 \rightarrow \boxed{(1, 4)}$$

:

$$f'(0.5) = 3 - \frac{3}{\sqrt{0.5}} < 0, \quad f'(2) = 3 - \frac{3}{\sqrt{2}} > 0$$

0	0.5	1	2	x
	-	0	+	$f'(x)$
	↘	Min	↗	

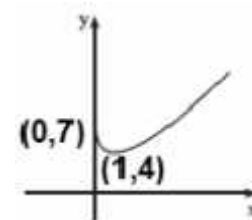
$(1, 4)$:

$0 < x < 1$: , $x > 1$:

$(0, 7)$, $f(0) = 3 \cdot 0 - 6\sqrt{0} + 7 = 7$: y -

$(0, 7)$:

$$f(x) = 3x - 6\sqrt{x} + 7$$



$y = 4$

$(1, 4)$

x -

x -

"

$$f(x) = x^2 - 2x + 5$$

$$x = 3, A \quad (1)$$

$$f'(x) = 2x - 2$$

$$m(3) = f'(3) = 2 \cdot 3 - 2 = 4$$

$$4 \quad :$$

$$A \quad (2)$$

$$A(3, 8)$$

$$f(3) = 3^2 - 2 \cdot 3 + 5 = 8$$

$$y - 8 = 4(x - 3)$$

$$y - 8 = 4x - 12$$

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

$$y = 4x - 4 \quad :$$

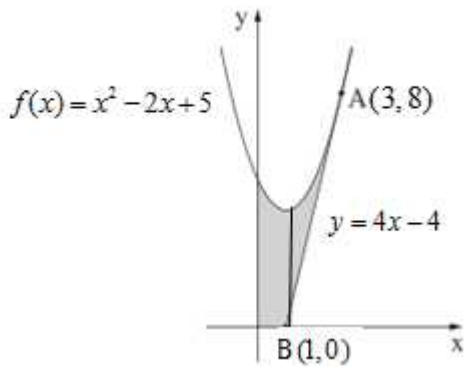
$$y = 0 \quad x -$$

$$0 = 4x - 4$$

$$4 = 4x$$

$$x = 1 \rightarrow \boxed{B(1, 0)}$$

$$B(1, 0) :$$



$$S_1 = \underline{\hspace{2cm}}$$

:

$$x^2 - 2x + 5 - (4x - 4) = x^2 - 2x + 5 - 4x + 4 = x^2 - 6x + 9$$

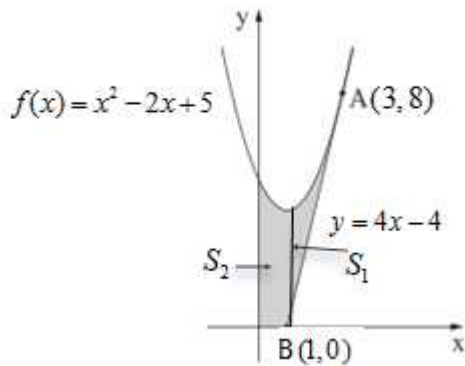
$$S_1 = \int_1^3 (x^2 - 6x + 9) dx$$

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

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

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

$$\boxed{S_1 = 2 \frac{2}{3}}$$



$$S_2 = \underline{\hspace{2cm}}$$

:

$$x^2 - 2x + 5 - (0) = x^2 - 2x + 5$$

$$S_2 = \int_0^1 (x^2 - 2x + 5) dx$$

$$S_2 = \left[\frac{x^3}{3} - \frac{2x^2}{2} + 5x \right]_0^1$$

$$S_2 = \left(\frac{1^3}{3} - 1^2 + 5 \cdot 1 \right) - \left(\frac{0^3}{3} + 0^2 + 5 \cdot 0 \right)$$

$$S_2 = 4 \frac{1}{3} - (0)$$

$$\boxed{S_2 = 4 \frac{1}{3}}$$

$$2 \frac{2}{3} + 4 \frac{1}{3} = 7$$

• " 7

:

پلنیجی

,6 ABCD

,DC = 6 - x ,BC = x

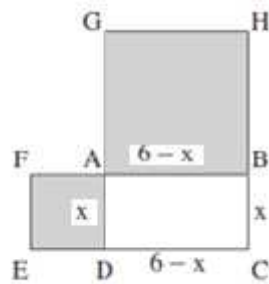
.x · x = x² ADEF

AD = BC = x

·(6 - x)(6 - x) = 36 - 6x - 6x + x² = 36 - 12x + x² AGHB

AB = DC = 6 - x

.S = x² + 36 - 12x + x² = 2x² + 36 - 12x :



$S = 2x^2 + 36 - 12x$

$s' = 4x - 12$

0 = 4x - 12

12 = 4x

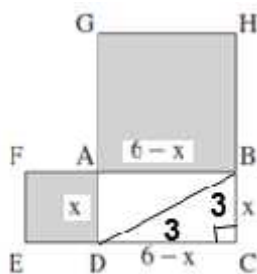
$x = 3$

.(x > 0)

S'(2) = 4 · 2 - 12 < 0, S'(4) = 4 · 4 - 12 > 0

0	2	3	4	x
	-	0	+	y'
	↘	Min	↗	

,BC = 3 :



.BC = 6 - 3 = 3 ,x = 3

.ΔBCD -

(BD)² = (BC)² + (DC)²

(BD)² = 3² + 3²

(BD)² = 18

$BD = \sqrt{18} \approx 4.243$

.√18 ≈ 4.243 BD :