

, $\frac{100-20}{100} \cdot x = 0.8x$, () x - .
 . 20% -

, $y+3$, y -
 . 3 -

. $xy = 135$: , 135
 . $0.8x(y+3) = 129.6$: , 129.6

:

$$\begin{cases} xy = 135 \rightarrow y = \frac{135}{x} \\ 0.8x(\frac{135}{x} + 3) = 129.6 \end{cases}$$

$108 + 2.4x = 129.6 \quad / -108$
 $2.4x = 21.6 \quad / : 2.4$
 $x = 9$

. 9 :

. $0.8 \cdot 9 = 7.2$.

. $9 - 7.2 = 1.8$ -

. 1.8 - :

AC

M

$$\left. \begin{aligned} x_M &= \frac{x_C + x_A}{2} = \frac{-2 + 6}{2} = \frac{4}{2} = 2 \\ y_M &= \frac{y_C + y_A}{2} = \frac{1 + 5}{2} = \frac{6}{2} = 3 \end{aligned} \right\} \boxed{M(2, 3)}$$

M(2, 3) :

$$m_{AC} = \frac{5 - 1}{6 - (-2)} = \frac{4}{8} = \frac{1}{2}$$

$$m_{AC} \cdot m_{BD} = -1 \rightarrow \frac{1}{2} \cdot m_{BD} = -1 \rightarrow \boxed{m_{BD} = -2} \quad \text{BD}$$

M(2, 3) , $m_{BD} = -2$: ,BD

$$\begin{aligned} y - 3 &= -2(x - 2) \\ y - 3 &= -2x + 4 \\ \boxed{y &= -2x + 7} \end{aligned}$$

$y = -2x + 7$ BD :

$y = 5$, $x = 1$ AB

$$y_B = y_A = 5 \quad (1)$$

$y_B = 5$:

$$\text{BD} \quad y_B = 5 \quad (2)$$

$$5 = -2x + 7$$

$$2x = 2 \quad / : 2$$

$$\boxed{x = 1}$$

$x_B = 1$:

$$\text{ABC} \quad (3)$$

AB h

$$AB = 6 - 1 = 5$$

$$h = 5 - 1 = 4$$

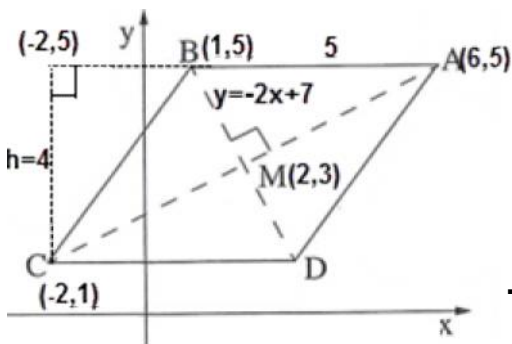
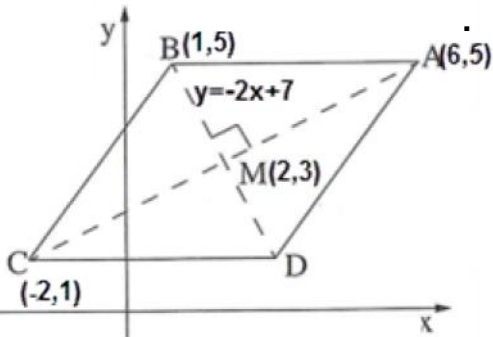
$$S_{\triangle ABC} = \frac{AB \cdot h}{2} = \frac{5 \cdot 4}{2} = 10$$

" 10 ABC :

$$S_{ABCD} = AB \cdot h = 5 \cdot 4 = 20 \quad (4)$$

" 20 :

"



(. ABC

$$(R \text{ M}(4, -2)) (x-4)^2 + (y+2)^2 = R^2$$

$$, B(2, -6)$$

$$(2-4)^2 + (-6+2)^2 = R^2$$

$$4+16 = R^2$$

$$\boxed{R^2 = 20}$$

$$(x-4)^2 + (y+2)^2 = 20, R^2 = 20 :$$

$$m_{BM} = \frac{-6 - (-2)}{2 - 4} = \frac{-4}{-2} = 2 \quad \text{BM}$$

$$. M(4, 2), m_{BM} = 2 : \quad , \text{BM}$$

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

$$y + 2 = 2x - 8 \quad / -2$$

$$\boxed{y = 2x - 10}$$

$$. y = 2x - 10 \quad \text{BM} \quad :$$

. AB

$$M(4, 2)$$

AB .

$$\left. \begin{array}{l} 4 = \frac{2 + x_A}{2} \rightarrow 8 = 2 + x_A \rightarrow 6 = x_A \\ -2 = \frac{-6 + y_A}{2} \rightarrow -4 = -6 + y_A \rightarrow 2 = y_A \end{array} \right\} \boxed{A(6, 2)}$$

$$. A(6, 2) :$$

$$. x_D = x_A = 6, y - \quad \text{AD (1) .}$$

$$x = 6$$

$$(6-4)^2 + (y+2)^2 = 20 \rightarrow 4 + (y+2)(y+2) = 20$$

$$4 + y^2 + 2y + 2y + 4 = 20 \rightarrow y^2 + 4y - 12 = 0$$

$$y_{1,2} = \frac{-4 \pm \sqrt{4^2 - 4 \cdot 1 \cdot (-12)}}{2 \cdot 1}$$

$$y_{1,2} = \frac{-4 \pm 8}{2}$$

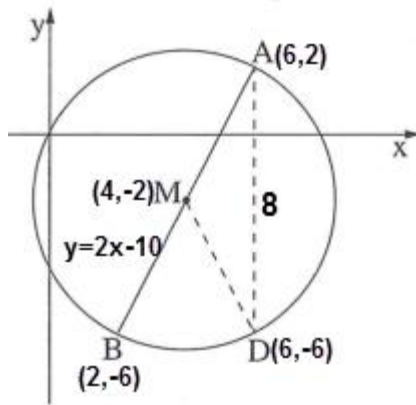
$$y_1 = \frac{-4 + 8}{2} = \frac{4}{2} = 2 = y_A$$

$$y_2 = \frac{-4 - 8}{2} = \frac{-12}{2} = -6 \rightarrow \boxed{D(6, -6)}$$

$$. D(6, -6) :$$

$$. AD = y_A - y_D = 2 - (-6) = 8 \quad \text{(2)}$$

$$. AD = 8 :$$



$$f(x) = -x - \frac{4}{x}$$

$$.x \neq 0 \quad (1)$$

$$x = 0 \quad , \quad x = 0 \quad (2)$$

$$.x = 0 :$$

:

,

$$f'(x) = -1 + \frac{4}{x^2}$$

$$\boxed{f'(x) = \frac{-x^2 + 4}{x^2}}$$

$$0 = \frac{-x^2 + 4}{x^2}$$

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

$$x^2 = 4 \rightarrow x = \pm 2$$

$$x = 2 \rightarrow y = -2 - \frac{4}{2} \rightarrow y = -4 \rightarrow \boxed{(2, -4)}$$

$$x = -2 \rightarrow y = -(-2) - \frac{4}{-2} \rightarrow y = 4 \rightarrow \boxed{(-2, 4)}$$

$$. \quad (-2, 4) \quad , \quad (2, -4) :$$

$$.x = -1 \quad A \quad (1)$$

$$m = f'(-1) = -1 + \frac{4}{(-1)^2} = -1 + 4 = 3$$

.3

:

$$.A(-1, 5)$$

$$, y = -(-1) - \frac{4}{-1} = 1 + 4 = 5 : \quad (2)$$

$$: m = 3 \quad , \quad A(-1, 5) \quad ,$$

$$y - 5 = 3(x - (-1))$$

$$y - 5 = 3(x + 1)$$

$$y - 5 = 3x + 3$$

$$\boxed{y = 3x + 8}$$

$$.y = 3x + 8$$

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$f(x) = -\frac{1}{2}x^2 + 2$

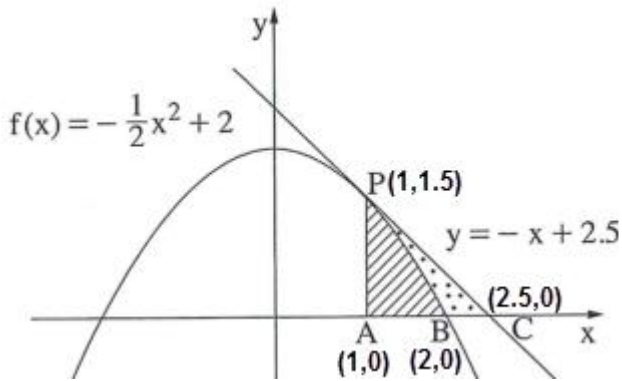
$y = -x + 2.5$, P

P

P(1, 1.5)

$y = 0$

$y = 0$



$y = -x + 2.5$

$x = 1 \Rightarrow -1 = -x \Rightarrow f'(x) = -x$

$y_p = -1 + 2.5 = 1.5$

P(1, 1.5) :

$0 = -\frac{1}{2}x^2 + 2 \quad / \cdot 2$

$0 = -x^2 + 4$

$x^2 = 4 \Rightarrow x \pm 2 \Rightarrow \boxed{B(2, 0)} \leftarrow x_B > 0$

B

$0 = -x + 2.5 \Rightarrow x = 2.5 \Rightarrow \boxed{C(2.5, 0)}$

C(2.5, 0), B(2, 0) :

(1).

$S = \int_1^2 (-\frac{1}{2}x^2 + 2 - 0) dx$

$S = -\frac{1}{2} \cdot \frac{x^3}{3} + 2x \Big|_1^2$

$S = (-\frac{1}{2} \cdot \frac{2^3}{3} + 2 \cdot 2) - (-\frac{1}{2} \cdot \frac{1^3}{3} + 2 \cdot 1)$

$S = \frac{8}{3} - (\frac{11}{6})$

$\boxed{S = \frac{5}{6}}$

$\frac{5}{6}$

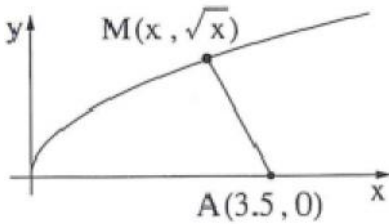
$S_{\Delta PAC} = \frac{AC \cdot AP}{2} = \frac{(2.5-1) \cdot (1.5-0)}{2} = \frac{1.5 \cdot 1.5}{2} = 1.125$

1.125 PAC :

$1.125 - \frac{5}{6} = \frac{7}{24}$:

$\frac{7}{24}$ PAC :

"



$M(x, \sqrt{x})$ $f(x) = \sqrt{x}$ M

$(MA)^2$, MA

:

$$MA = \sqrt{(x-3.5)^2 + (\sqrt{x}-0)^2}$$

$$(MA)^2 = (x-3.5)^2 + (\sqrt{x})^2$$

$$(MA)^2 = (x-3.5)(x-3.5) + x$$

$$(MA)^2 = x^2 - 3.5x - 3.5x + 12.25 + x$$

$$(MA)^2 = x^2 - 6x + 12.25$$

$(MA)^2 = x^2 - 6x + 12.25$:

$(MA)^2 = x^2 - 6x + 12.25$ **pl'n'j'n**

:

$$((MA)^2)' = 2x - 6$$

$$0 = 2x - 6$$

$$-2x = -6 \quad / : (-2)$$

$$x = 3$$

:

$$((MA)^2)'(2) = 2 \cdot 2 - 6 < 0, \quad ((MA)^2)'(4) = 2 \cdot 4 - 6 > 0$$

0	2	3	4	x
	-	0	+	$((MA)^2)'$
	↘	Min	↗	

$(MA)^2$ $x = 3$: