

$\cdot 0.5y$, \cdot , 50% - x :
 $\cdot \frac{100+40}{100} \cdot y = 1.4y$, 40% - y

()	()	()	
$6 \cdot 0.5y = 3y$	$0.5y$	6	
$1.4y(x-6)$	$1.4y$	$x-6$	

$\cdot 83,340$
 $\cdot 3y + 1.4y(x-6) = 83,340$:
 $\cdot 88,200$, 40%
 $\cdot 1.4xy = 88,200$:

$$\begin{cases}
 3y + 1.4y(x-6) = 83,340 \\
 1.4xy = 88,200 \quad / : 1.4
 \end{cases}$$

$$\begin{cases}
 3y + 1.3xy - 8.4y = 83,340 \\
 \boxed{xy = 63,000}
 \end{cases}$$

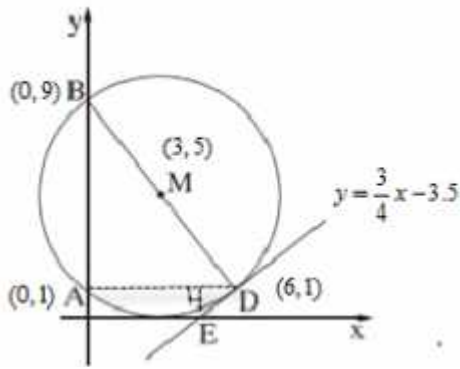
$$3y + 1.4 \cdot 63,000 - 8.4y = 83,340$$

$$-5.4y = -4,860 \quad / : (-5.4)$$

$$\boxed{y = 900} \rightarrow x = \frac{63,000}{900} \rightarrow \boxed{x = 70}$$

$\cdot 900$:

$\cdot 70$.



• A(0,1)

y -

M(3,5)

• x -

, y -

AB

• $y_Z = y_M = 5$

• $5 = \frac{1+y_B}{2} \rightarrow y_B = 9 :$

• B(0,9) :

M(3,5)

BD .

: $x = 0$

$$\left. \begin{aligned} 3 &= \frac{0+x_D}{2} \rightarrow x_D = 6 \\ 5 &= \frac{9+y_D}{2} \rightarrow y_D = 1 \end{aligned} \right\} \boxed{D(6,1)}$$

• D(6,1) :

• D(6,1)

MD

DE

$m_{MD} = \frac{1-5}{6-3} = \frac{-4}{3} = -\frac{4}{3}$

$m_{DE} \cdot m_M = -1 \leftarrow DE \perp MD$

$-\frac{4}{3} \cdot m_{DE} = -1 \rightarrow m_{DE} = +\frac{3}{4}$

$y-1 = \frac{3}{4}(x-6)$

$\boxed{y = \frac{3}{4}x - 3.5}$

• $y = \frac{3}{4}x - 3.5$

• y -

h_{AD}

, x -

BC

$S_{\triangle ADE} = \frac{AD \cdot h_{AD}}{2}$

$S_{\triangle ADE} = \frac{(6-0) \cdot (1-0)}{2}$

$\boxed{S_{\triangle ADE} = 3}$

• $S_{\triangle ADE} = 3 :$

:" 5 - 4 " (2)

, P₄(5)

k = 4 , n = 5 , p = 0.6 ,

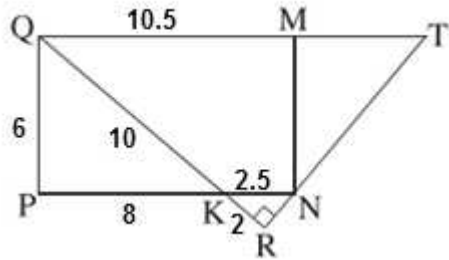
$$P_4(5) = \binom{5}{4} 0.6^4 (1-0.6)^{5-4} = 5 \cdot 0.6^4 \cdot 0.4 = 0.2592$$

$$P_5(5) = 0.6^5 = 0.07776$$

$$0.2592 + 0.07776 = 0.33696 :$$

. 0.33696

5 - 4 :



\overline{MNPQ} .1

$\sphericalangle R = 90^\circ$.2

$KR = 2$.5 $QK = 10$.4 $QM = 10.5$.3 :

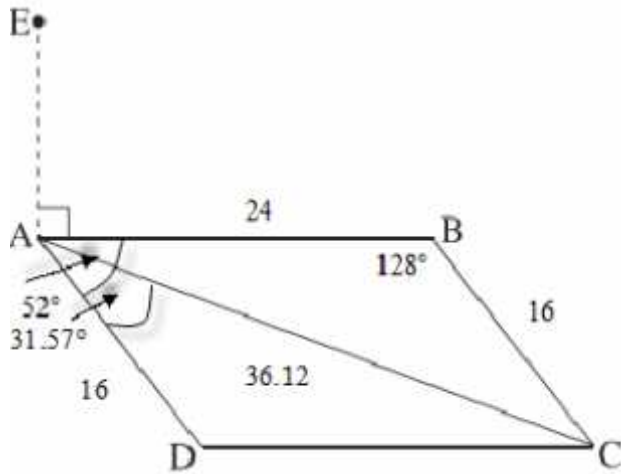
$KN < PK$.6

$PQ \cdot PK = PK \cdot KN = QK \cdot KR$. : "

$\Delta QRT \sim \Delta KRN$ (1) .

	MNPQ	7	1
	$\sphericalangle P = 90^\circ$	8	7
	$\sphericalangle R = 90^\circ$	9	2
	() $\sphericalangle P = \sphericalangle R$	10	9,8
	() $\sphericalangle QKP = \sphericalangle RKN$	11	
	$\Delta PKQ \sim \Delta RKN$	12	11,10
	$\frac{PK}{RK} = \frac{PQ}{RN} = \frac{KQ}{KN}$	13	12
	$PK \cdot KN = QK \cdot KR$	14	13
. . . .			
	$QM = 10.5$	15	3
	$PN = QM = 10.5$	16	7
	$PK \cdot (10.5 - PK) = 10 \cdot 2$	17	16,14,5,4
	$KN < PK$	18	6
$PK = 2.5$ -	$PK = 8$	19	18,17
. . . .			
ΔQKP	$PQ = 6$	20	19,8,4
. . . .			
	$PN \parallel QM$	21	7
1	$\frac{KN}{QT} = \frac{RK}{RQ} = \frac{RN}{RT}$	22	21
	$\Delta QRT \sim \Delta KRN$	23	22
(1)			

	KN = " 2.5	24	19 ,16
	RQ = " 12	25	5 ,4
	$\frac{2.5}{QT} = \frac{2}{12}$	26	25 ,24 ,22
	QT = " 15	27	26
(2) . . .			



$\cdot (180^\circ -$

$\cdot ()$ ABCD .

$) \sphericalangle BAD = 52^\circ \rightarrow \sphericalangle B = 128^\circ$

$\cdot ()$ BC = AD = 16

$\triangle ABC$

$$(AC)^2 = (AB)^2 + (BC)^2 - 2AB \cdot BC \cdot \cos \sphericalangle B$$

$$(AC)^2 = 24^2 + 16^2 - 2 \cdot 24 \cdot 16 \cdot \cos 128^\circ$$

$$(AC)^2 = 1304.8$$

$$\boxed{AC = 36.12 \text{ cm}} \leftarrow AC > 0$$

$\cdot "$ 36.12 AC :

$\triangle ADC$.

$$\cos \sphericalangle CAD = \frac{(AD)^2 + (AC)^2 - (DC)^2}{2AD \cdot AC}$$

$$\cos \sphericalangle CAD = \frac{16^2 + 36.12^2 - 24^2}{2 \cdot 16 \cdot 36.12}$$

$$\cos \sphericalangle CAD = 0.85$$

$$\boxed{\sphericalangle CAD = 31.57^\circ} \leftarrow 0^\circ < \sphericalangle CAD < 52^\circ$$

$\cdot \sphericalangle CAD = 31.57^\circ :$

$\cdot () \sphericalangle EAD = 90^\circ + 52^\circ = 142^\circ .$

$\triangle EAD$

$$(ED)^2 = (AE)^2 + (AD)^2 - 2AE \cdot AD \cdot \cos \sphericalangle EAD$$

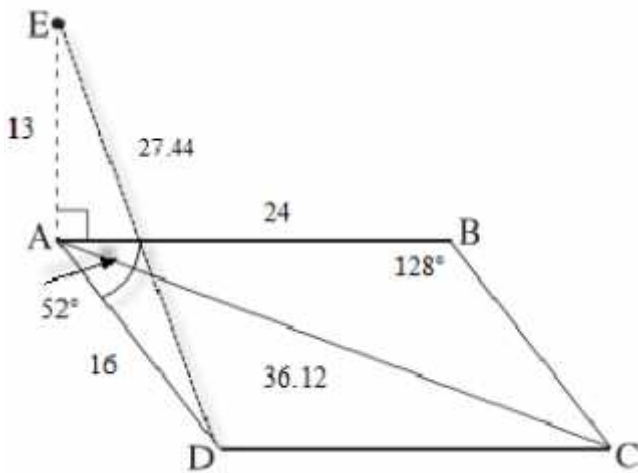
$$(ED)^2 = 13^2 + 16^2 - 2 \cdot 13 \cdot 16 \cdot \cos 142^\circ$$

$$(ED)^2 = 752.8$$

$$\boxed{ED = 27.44 \text{ cm}} \leftarrow ED > 0$$

$$27.44 + 16 + 24 = " 56.44 : \triangle EAD$$

$\cdot "$ 56.44 : $\triangle EAD$:



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

$x \neq 1$:

$$x = 1 - y$$

$$x = 1$$

(1)

(2) x

$x = 1$:

$(0, -2)$

$$x = 0 \quad y$$

$$0 = x^2 - 2x + 2 \quad ; y = 0 \quad x$$

x

$(0, -2)$:

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

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

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

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

$$x = 0 \rightarrow (0, -2)$$

$$x = 2 \rightarrow y = \frac{2^2 - 2 \cdot 2 + 2}{2 - 1} = 2 \rightarrow (2, 2)$$



($x = 1$) _____)

$$x = 0$$

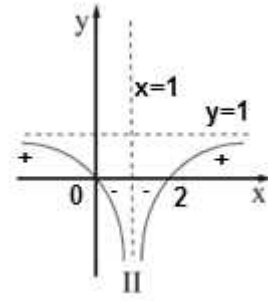
$$x = 2$$

$(2, 2)$,

$(0, -2)$:

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

.II



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

$$.x=2 - x=0 ,$$

(1)

$$.x < 0 \quad x > 2$$

(2)

$$. 0 < x < 1 \quad 1 < x < 2$$

(3)

$$(b) y = -x^2 - 6x + b \quad (1)$$

$$x_{\max} = \frac{-(-6)}{2(-1)} = \frac{6}{-2} = -3$$

-3

x :

(-3, 4)

$$y_{\max} = 4 \quad (2)$$

$$4 = -(-3)^2 - 6(-3) + b$$

$$4 = -9 + 18 + b$$

$$\boxed{b = -5}$$

$$b = -5 :$$

$$y = -x^2 - 6x - 5$$

$$b = -5$$

$$y = 4$$

x :

$$0 = -x^2 - 6x - 5 \rightarrow x = -1, x = -5$$

$$x = -1$$

$$S_1 = 1 \cdot 4 = 4$$

$$S_2 = \int_{-3}^{-1} (4 - (-x^2 - 6x - 5)) dx$$

$$S_2 = \int_{-3}^{-1} (x^2 + 6x + 9) dx$$

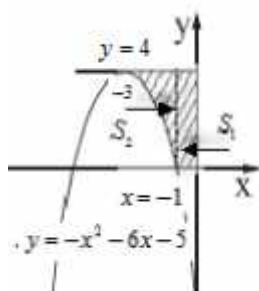
$$S_2 = \left[\frac{x^3}{3} + 3x^2 + 9x \right]_{-3}^{-1}$$

$$\left. \begin{array}{l} x = -1: \frac{(-1)^3}{3} + 3 \cdot (-1)^2 + 9 \cdot (-1) = -\frac{19}{3} \\ x = -3: \frac{(-3)^3}{3} + 3 \cdot (-3)^2 + 9 \cdot (-3) = -9 \end{array} \right\} S_2 = -\frac{19}{3} - (-9) = 2\frac{2}{3}$$

$$S_1 + S_2 = 4 + 2\frac{2}{3} = 6\frac{2}{3}$$

$$6\frac{2}{3}$$

"



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14

$$, (a = \frac{1}{6} > 0)$$

$$g(x) = \frac{1}{6}x^2 + 2$$

$$, (a = -\frac{1}{3} < 0)$$

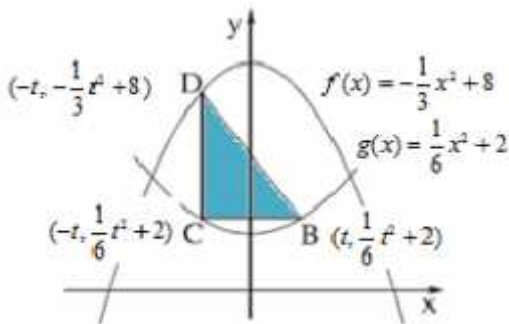
$$f(x) = -\frac{1}{3}x^2 + 8$$

$$. B(t, \frac{1}{6}t^2 + 2) \quad g(x) = \frac{1}{6}x^2 + 2 \quad B \quad , \quad . t - B \quad x -$$

$$. C(-t, \frac{1}{6}t^2 + 2) \quad x_C = -x_B \quad x = 0 \quad g(x) = \frac{1}{6}x^2 + 2 \quad : y_C = y_B$$

$$. D(-t, -\frac{1}{3}t^2 + 8) \quad , D(-t, -\frac{1}{3}(-t)^2 + 8) \quad f(x) = -\frac{1}{3}x^2 + 8 \quad D \quad : x_D = x_C = -t$$

$$. D(-t, -\frac{1}{3}t^2 + 8) , C(-t, \frac{1}{6}t^2 + 2) , B(t, \frac{1}{6}t^2 + 2) :$$



$$. \triangle BCD \quad t$$

$$BC = x_B - x_C = t - (-t) = t + t = 2t$$

$$CD = y_D - y_C = -\frac{1}{3}t^2 + 8 - (\frac{1}{6}t^2 + 2) = -\frac{1}{3}t^2 + 8 - \frac{1}{6}t^2 - 2 = -\frac{1}{2}t^2 + 6$$

$$S_{\triangle BCD} = \frac{BC \cdot CD}{2} = \frac{2t \cdot (-\frac{1}{2}t^2 + 6)}{2}$$

$$S_{\triangle BCD} = -\frac{1}{2}t^3 + 6t$$

$$. S_{\triangle BCD} = -\frac{1}{2}t^3 + 6t :$$

.BCD *efienna nbe* *min'okn* .

$$S(t) = -\frac{1}{2}t^3 + 6t :$$

$$S'(t) = -1.5t^2 + 6$$

$$0 = -1.5t^2 + 6$$

$$1.5t^2 = 6$$

$$t^2 = 4$$

$$t = 2 \leftarrow 0 < t < \sqrt{24}, (f(x) = 0)$$

$$S'(3) = -1.5 \cdot 1^2 + 6 > 0$$

$$S'(1) = -1.5 \cdot 3^2 + 6 < 0$$

0	1	2	3	$\sqrt{24}$	<i>x</i>
	+	0	-		<i>S'</i>
	↗	Min	↘		

$$t = 2$$

BCD

$$t = 2 :$$