

.() (") x - .
 , $\frac{100+20}{100} \cdot x = 1.2x$, 1.2x

.70-30 = " 40 " 30 , ,
 (t) (v) (s) - s = vt

:

s - "	v - "	t -		
2x	x	2		
-	-	0.5		
30-2x	1.2x	$\frac{30-2x}{1.2x}$		
40	x+3	$\frac{40}{x+3}$		

.() , 2.5

. $\frac{40}{x+3} + 2.5 = 2 + 0.5 + \frac{30-2x}{1.2x}$:

:

$\frac{40}{x+3} + 2.5 = 2 + 0.5 + \frac{30-2x}{1.2x}$

$\frac{40}{x+3} = \frac{30-2x}{1.2x}$

48x = (x+3)(30-2x)

2x² + 24x - 90 = 0

x = 3 o.k. ~~x = -30~~ ← x > 0

. " 3 () :

. 40 - 6 , " $\frac{40}{6} = 6\frac{2}{3}$ - , " 6 , " 40 .

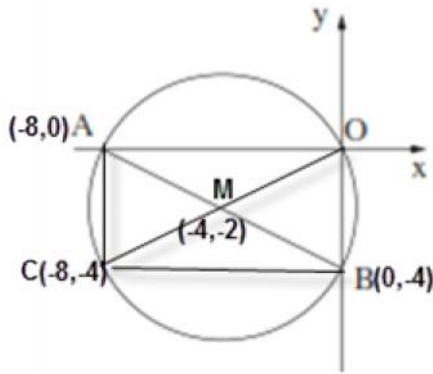
. 16:10

, 9:30 -

. 16:10

:

"



AB $\angle AOB = 90^\circ$

AB :

AB

$$\left. \begin{aligned} x_M &= \frac{-8+0}{2} = \frac{-8}{2} = -4 \\ y_M &= \frac{0+(-4)}{2} = \frac{-4}{2} = -2 \end{aligned} \right\} M(-4, -2)$$

$R = d_{MO} = \sqrt{(-4-0)^2 + (-2-0)^2} = \sqrt{20}$

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

$\Delta BOC = 16$ (1)

BO

$$16 = \frac{BO \cdot h}{2}$$

$$32 = 4h$$

$$h = 8$$

$x_C = x_A = -8$, BO , AO

(BO , , ,)

$x_C = -8$:

$y_C = y_B = -4$, x BC (2)

$y_C = -4$ - $y_A = 0$ $x_C = -8$

$y_C = -4$:

ΔBOC - OC BM .

$S_{\Delta BMC} = \frac{16}{2} = 8$,

$S_{\Delta BMC} = 8$:

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$p = 0.8$, $p^3 = 0.512$

$k = 3$, $p = 0.8$, $n = 4$

$$P_n(k) = \binom{n}{k} (p)^k (1-p)^{n-k}$$

$$P_4(3) = \binom{4}{3} (0.8)^3 (1-0.8)^{4-3}$$

$$P_4(3) = \frac{4!}{4!(4-3)!} \cdot 0.8^3 \cdot 0.2^1$$

$$P_4(3) = 4 \cdot 0.8^3 \cdot 0.2^1$$

$$P_4(3) = 0.4096$$

0.4096

- \bar{A} - A
- \bar{B} - B

$$P(A) = 0.8 \rightarrow P(\bar{A}) = 0.2$$

$$P(\bar{B}) = 0.18 \rightarrow P(B) = 0.82$$

$$P(\bar{B}/A) = \frac{1}{8} \rightarrow P(B/A) = \frac{7}{8}$$

$$P(\bar{B}/A) = \frac{P(\bar{B} \cap A)}{P(A)}$$

$$\frac{1}{8} = \frac{P(\bar{B} \cap A)}{0.8}$$

$$P(\bar{B} \cap A) = 0.1$$

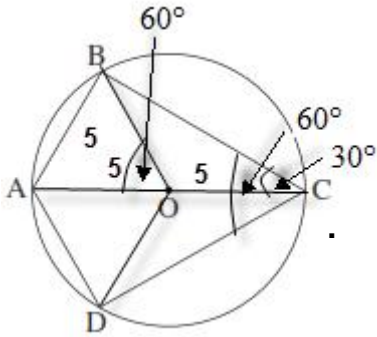
	\bar{A}	A	
0.82	0.12	0.7	B
0.18	0.08	0.1	\bar{B}
1	0.2	0.8	

$$P(A/\bar{B}) = \frac{P(A \cap \bar{B})}{P(\bar{B})} = \frac{0.1}{0.18} = \frac{5}{9}$$

$\frac{5}{9}$,

,

:



ABOD .

.BC = DC , AB = AD ,

ABCD .1

O .3 . $\sphericalangle BCD = 60^\circ$.2

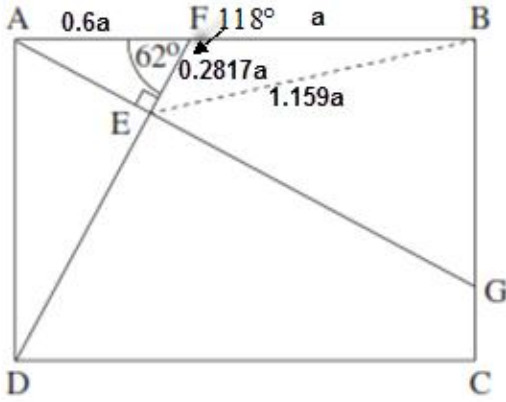
.AB = " 5 .4 .

ΔABO (2) $\sphericalangle ABC = \sphericalangle ADC = 90^\circ$ (1) . : "

$\Delta ABO \sim \Delta BCD$. .BC .

	ABCD	5	1
	$\sphericalangle ABC = \sphericalangle ADC$	6	5
	$\sphericalangle ABC + \sphericalangle ADC = 180^\circ$	7	5
,	$\sphericalangle ABC = \sphericalangle ADC = 90^\circ$	8	7,6
(1) . . .			
	$\sphericalangle BCD = 60^\circ$	9	2
	$\sphericalangle BCA = 30^\circ$	10	9,5
	O	11	3
	$\sphericalangle BOA = 60^\circ$	12	11,9
	OB = OA	13	11
60°	ΔABO	14	13,12
(2) . . .			
	OB = OA	15	11
	AB = AD	16	1
	OB = AB = AD = OD	17	16,15,13
	ABOD	18	17
. . .			
	AB = " 5	19	4
(" 5) , - ΔABC 30°	.AC = " 10	20	19,10,8
ΔABC	BC = " $\sqrt{75}$	21	20,19,8
. . .			

\widehat{BC}	$\sphericalangle BAC = \sphericalangle BDC$	22	
	$\sphericalangle BOA = \sphericalangle BCD$	23	11,9
	$\triangle ABO \sim \triangle BCD$	24	23,22
. . .			



. a EF (1) .

$\triangle AFE$

$$\cos 62^\circ = \frac{EF}{AF}$$

$$0.6a \cos 62^\circ = EF$$

$$\boxed{EF = 0.2817a}$$

$$\therefore EF = 0.2817a :$$

. a BE (2)

.(180° -

) \sphericalangle BFE = 118°

$\triangle FBE$

$$(BE)^2 = (EF)^2 + (BF)^2 - 2 \cdot EF \cdot BF \cdot \cos \sphericalangle BFE$$

$$(BE)^2 = (0.2817a)^2 + a^2 - 2 \cdot 0.2817a \cdot a \cdot \cos 118^\circ$$

$$(BE)^2 = 1.3438a^2$$

$$\boxed{BE = 1.159a}$$

$$\therefore BE = 1.159a :$$

$$\cdot EF = " 1.4085, BE = " 5.796 \quad , a = " 5 \quad .$$

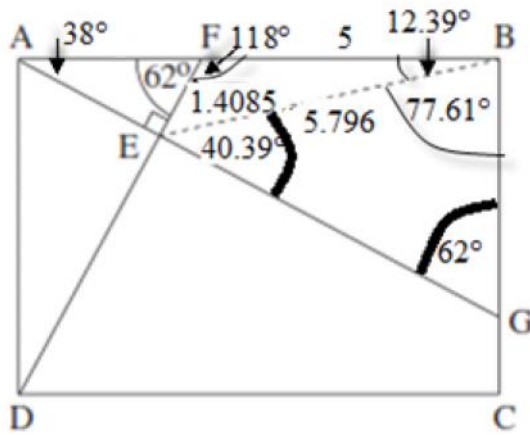
$\triangle FBE$ (1)

$$\frac{EF}{\sin \sphericalangle EBA} = \frac{BE}{\sin 118^\circ}$$

$$\frac{1.4085 \sin 118^\circ}{5.796} = \sin \sphericalangle EBA$$

$$\boxed{\sphericalangle EBA = 12.39^\circ}$$

$$\cdot \sphericalangle EBA = 12.39^\circ :$$



$$(\quad) \sphericalangle GBE = 77.61^\circ \quad (2)$$

$$(\triangle AEF \ 180^\circ \quad) \sphericalangle BAG = 38^\circ$$

$$(\triangle BAG \ 180^\circ \quad) \sphericalangle BGE = 62^\circ$$

$$(\triangle EBG \ 180^\circ \quad) \sphericalangle BEG = 40.39^\circ$$

$$S_{\triangle EBG} = \frac{(EB)^2 \cdot \sin \sphericalangle BEG \cdot \sin \sphericalangle GBE}{2 \cdot \sin \sphericalangle BGE}$$

$$S_{\triangle EBG} = \frac{5.796^2 \cdot \sin 40.39^\circ \cdot \sin 77.61^\circ}{2 \cdot \sin 62^\circ}$$

$$\boxed{S_{\triangle EBG} = 12.04 \text{ cm}^2}$$

$$\cdot S_{\triangle EBG} = " 12.04 :$$

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

$$2x+4 \neq 0 \rightarrow x \neq -2 \quad (1)$$

$$x \neq -2 : \quad :$$

(2)

$$f(0) = \frac{0-2}{2 \cdot 0+4} = \frac{-2}{4} = -0.5 \rightarrow \boxed{(0, -0.5)} \quad - \quad x=0 : y$$

$$0 = x-2 \rightarrow x=2 \rightarrow \boxed{(2, 0)} \quad - \quad y=0 : x$$

$$(2, 0) , (0, -0.5) :$$

(3)

$$(\quad) \quad x = -2 \quad : y -$$

$$(1) \quad (1) \quad) \quad y = 0.5 : x -$$

$$y = 0.5 , x = 1 :$$

(4)

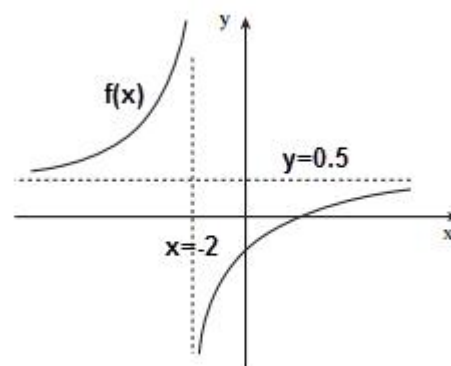
$$f'(x) = \frac{2x+4-2(x-2)}{(2x+4)^2}$$

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

$$\boxed{f'(x) = \frac{8}{(2x+4)^2}}$$

$$x : \quad , x < -2 \quad x > -2 : \quad :$$

(5)



• (2,0)

$$f'(0) = \frac{8}{(2 \cdot 2 + 4)^2} = \frac{1}{8}$$

• P

x -

$$\frac{1}{8} = \frac{8}{(2x+4)^2}$$

$$(2x+4)^2 = 64$$

$$2x+4 = 8 \quad 2x+4 = -8$$

$$x = 2 \quad x = -6$$

$$y = \frac{-6-2}{2 \cdot (-6)+4} = 1 \rightarrow \boxed{P(-8,1)}$$

• P(-8,1) :

$$g(x) = f(x) + C$$

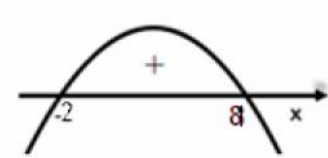
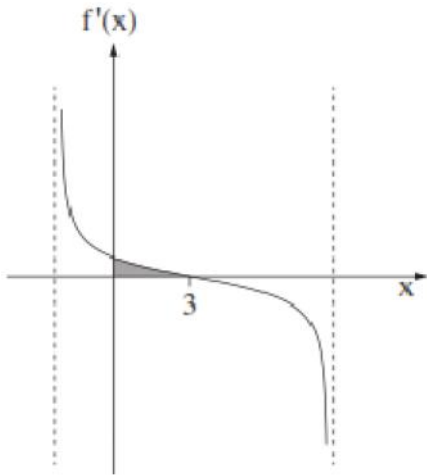
$$C = f(x)$$

$$, y = 0 \quad g(x)$$

$$• y = 0.5 \quad f(x)$$

0.5

• C = -0.5 :



$f(x) = \sqrt{-x^2 + bx + 16}$
 $x = 3$ (1)

$x = 3$:

$x = 3$ (2)

$$f'(x) = \frac{-2x + b}{2\sqrt{-x^2 + bx + 16}}$$

$$0 = -2 \cdot 3 + b$$

$$\boxed{b = 6}$$

$b = 6$:

$$f(x) = \sqrt{-x^2 + 6x + 16}$$

$$-x^2 + 6x + 16 \geq 0$$

$$x = 8, x = -2$$

()

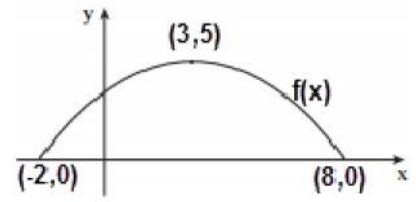
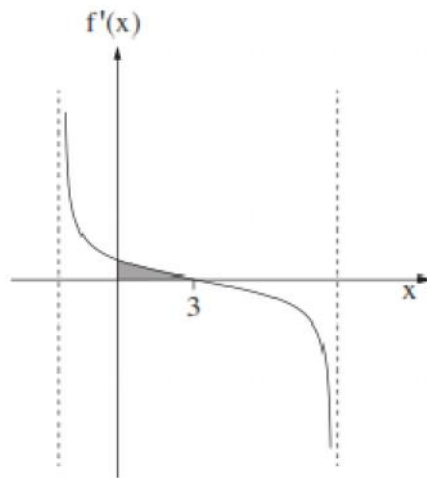
$$-2 \leq x \leq 8$$

$(-2, 0)$, $(8, 0)$:

$x = 3$ (1)

$$x = 3 \rightarrow y = \sqrt{-3^2 + 6 \cdot 3 + 16} = 5 \rightarrow (3, 5)$$

$(-2, 0)$, $(8, 0)$, $(3, 5)$:



$$S = \int_0^3 f'(x) dx = f(x) \Big|_0^3$$

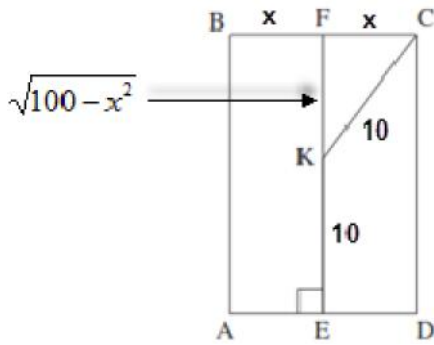
$$S = f(3) - f(0)$$

$$S = 5 - (\sqrt{-0^2 + 6 \cdot 0 + 16})$$

$$S = 5 - 4$$

$$\boxed{S = 1}$$

• " 1 :



. ΔFKC -

. $FC = x$.

FK

$(KC)^2 + x^2 = 10^2$

$(KC)^2 = 100 - x^2$

$KC = \sqrt{100 - x^2}$

. $KC = \sqrt{100 - x^2}$:

. ABCD **היקף המלבן** **מקסימום** .

F , $BC = 2x$

(FCDE) $CD = 10 + \sqrt{100 - x^2}$, $FE = 10 + \sqrt{100 - x^2}$

$P = 2 \cdot 2x + 2 \cdot (10 + \sqrt{100 - x^2})$

$P = 4x + 20 + 2\sqrt{100 - x^2}$

$P' = 4 - \frac{2x}{\sqrt{100 - x^2}}$

$P' = \frac{4\sqrt{100 - x^2} - 2x}{\sqrt{100 - x^2}}$

$0 = 4\sqrt{100 - x^2} - 2x$

$x = 2\sqrt{100 - x^2} \quad ()^2$

$x^2 = 4(100 - x^2)$

$5x^2 = 400$

$x^2 = 80$

$x = \sqrt{80}$

test: $\sqrt{80} = 2\sqrt{100 - \sqrt{80}^2} \rightarrow \sqrt{80} = 2\sqrt{20} \rightarrow \sqrt{80} = \sqrt{80} \quad o.k.$

$P'(8) = \frac{4\sqrt{100 - 8^2} - 2 \cdot 8}{\sqrt{100 - 8^2}} = \frac{8}{8} > 0$
 $P'(9) = \frac{4\sqrt{100 - 9^2} - 2 \cdot 9}{\sqrt{100 - 9^2}} = \frac{-0.56}{8} < 0$ } $x = \sqrt{80} \quad Max$

. ABCD , $BC = 2\sqrt{80}$: