

- x

$$\frac{100-40}{100} \cdot x = 0.6x$$

40% -

$$\frac{100-18}{100} \cdot 0.6x = 0.82 \cdot 0.6x = 0.492x \quad 18\%$$

$$.150x \quad - x \quad ,$$

150

$$.300 \cdot 0.492x = 147.6x \quad - 0.492x \quad ,$$

300

$$150x + 147.6x = 44.64$$

44.64

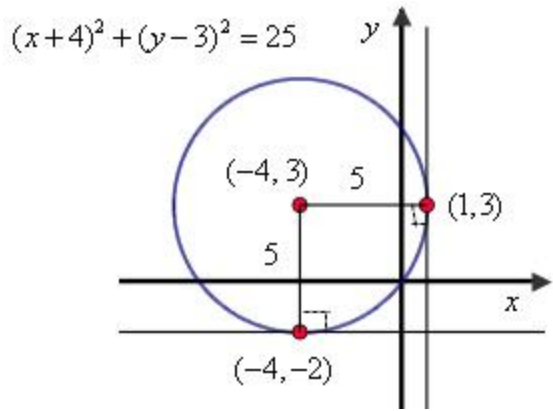
$$150x + 147.6x = 44.64$$

$$297.6x = 44.64 \quad / : 297.6$$

$$x = 0.15$$

$$. \quad 0.6 \cdot 0.15 = 0.09 \quad , \quad , \quad 0.15$$

$$.( \quad 9) \quad 0.9 \quad , \quad , \quad ( \quad 15) \quad 0.15 \quad :$$



$(3-5=-2)$

$(-4+5=1)$

$(x-a)^2 + (y-3)^2 = 25$

$(0, 0)$

$(0-a)^2 + (0-3)^2 = 25$

$a^2 = 16$

$a = -4 \leftarrow a < 0$

$a = -4 :$

$(x+4)^2 + (y-3)^2 = 25$

$(x, x+2)$

$(x+4)^2 + (x+2-3)^2 = 25$

$(x+4)^2 + (x-1)^2 = 25$

$2x^2 + 6x - 8 = 0$

$x_{1,2} = \frac{-6 \pm 10}{4} \rightarrow x = 1, -4 \rightarrow (1, 3), (-4, -2)$

$(-4, -2), (1, 3) :$

$(-4, 3)$

$(-4, -2)$

$y = -2$

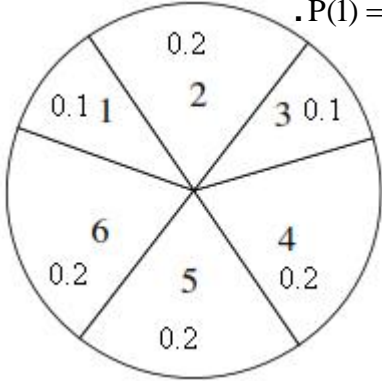
$(1, 3)$

$x = 1$

$x = 1, y = -2 :$

35804

12



$P(1) = P(3) = 0.1, P(2) = P(4) = P(5) = P(6) = 0.2,$

$$P(\text{even no.}) = P(2) + P(4) + P(6) = 3 \cdot 0.2 = 0.6 :$$

$$0.6 :$$

(1)

$p = 0.6, n = 5,$

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

2, 1, 0 -

$$P_5(0) = \binom{5}{0} (0.6)^0 (1-0.6)^{5-0}$$

$$P_5(1) = \binom{5}{1} (0.6)^1 (1-0.6)^{5-1}$$

$$P_5(2) = \binom{5}{2} (0.6)^2 (1-0.6)^{5-2}$$

$$P_5(0) = 1 \cdot 1 \cdot 0.4^5$$

$$P_5(1) = \frac{5!}{1!(5-1)!} \cdot 0.6^1 \cdot 0.4^4$$

$$P_5(2) = \frac{5!}{2!(5-2)!} \cdot 0.6^2 \cdot 0.4^3$$

$$P_5(0) = 0.01024$$

$$P_5(1) = 5 \cdot 0.6^1 \cdot 0.4^4$$

$$P_5(2) = 10 \cdot 0.6^2 \cdot 0.4^3$$

$$P_5(1) = 0.0768$$

$$P_5(2) = 0.2304$$

$$P(\text{at most 2 are even no.}) = 0.2304 + 0.0768 + 0.01024 = 0.31744$$

$$0.31744$$

2

:

2

(2)

2

$$P(2 \text{ are even no.} / \text{at most 2 are even no.}) = \frac{P(2 \text{ are even no.} \cap \text{at most 2 are even no.})}{P(\text{at most 2 are even no.})}$$

$$P(2 \text{ are even no.} / \text{at most 2 are even no.}) = \frac{0.2304}{0.31744} = \frac{45}{62}$$

$$\frac{45}{62} :$$

2

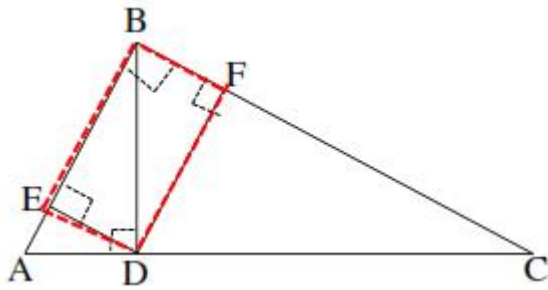
10

$$10 \cdot 0.6^2 \cdot 0.4^3 = 0.2304$$

$$\frac{0.2304}{10} = 0.02304$$

$$P = 0.6 \cdot 0.4 \cdot 0.4 \cdot 0.4 \cdot 0.6 = 0.02304 :$$

$$0.02304 :$$



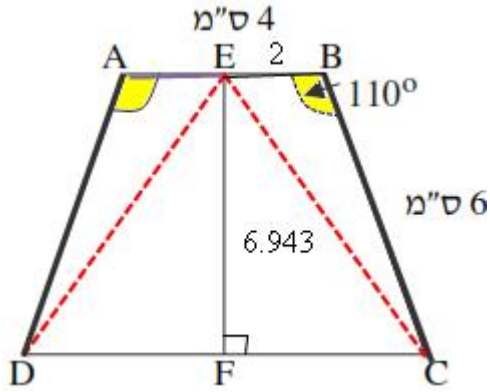
$\sphericalangle BDA = 90^\circ$  .2  $\sphericalangle ABC = 90^\circ$  .1

$\sphericalangle DEB = 90^\circ$  .4  $\sphericalangle DFB = 90^\circ$  .3

BD - EF . : "

$ED^2 = DF \cdot AE$  .

		,	
	$\sphericalangle ABC = 90^\circ$	5	1
	$\sphericalangle DEB = 90^\circ$	6	4
	$\sphericalangle DFB = 90^\circ$	7	3
	EBFD	8	7,6,5
	BD - EF	9	8
. . .			
	$\sphericalangle BDA = 90^\circ$	10	2
	$ED^2 = EB \cdot AE$	11	10,2
	$ED^2 = DF \cdot AE$	12	11,9
. . .			



AB || DC .2

ABCD .1

DF = FC .4 AE = EB .3

BC = " 6 .6 AB = " 4 .5 :

$\angle EBC = 110^\circ$  .7

EF  $\perp$  DC (2) ED = EC (1) . : "

. $\angle ECB$  .

		'	
	ABCD	8	1
	AB    DC	9	2
	( ) AD = BC	10	9,8
	( ) $\angle A = \angle B$	11	8
	( ) AE = EB	12	3
	$\triangle DAE \cong \triangle CBE$	13	12,11,10
	ED = EC	14	13
(1) . . .			
	DF = FC	15	4
$\triangle DEC$ -	EF $\perp$ DC	16	15,14
(2) . . .			

ונצבור לטריאנומטריה אסצוף ב

( ) BC = " 6 ( )  $\angle EBC = 110^\circ$  ( ) EB = " 2 ( ) AB = " 4

$\triangle EBC$

$$(EC)^2 = (EB)^2 + (BC)^2 - 2EB \cdot BC \cdot \cos \angle EBC$$

$$(EC)^2 = 2^2 + 6^2 - 2 \cdot 2 \cdot 6 \cdot \cos 110^\circ$$

$$(EC)^2 = 48.21$$

$$EC = 6.943 "$$

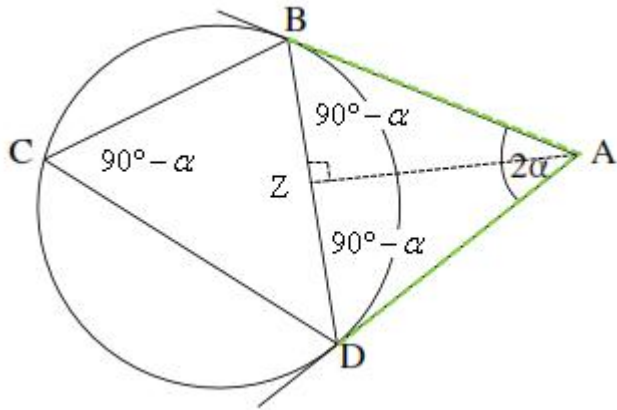
$\Delta EBC$

$$\frac{EC}{\sin \sphericalangle B} = \frac{EB}{\sin \sphericalangle ECB} \rightarrow \frac{6.943}{\sin 110^\circ} = \frac{2}{\sin \sphericalangle ECB}$$
$$\sin \sphericalangle ECB = \frac{2 \sin 110^\circ}{6.943}$$

$$\boxed{\sphericalangle ECB = 15.705^\circ}$$

$\leftarrow \sphericalangle ECB < 70^\circ$

$\therefore \sphericalangle ECB = 15.705^\circ :$



$\angle BCD = 90^\circ - r$  (1)

( )  $\angle A = 2r$

( ) AB, AD

( ) AB = AD

(  $180^\circ$   $\triangle ADB$  " )

$\angle ABD = \angle ADB = \frac{180^\circ - 2r}{2} = 90^\circ - r$

( )  $\angle BCD = 90^\circ - r$

∴

$r$  AB (2)

" 10

$\triangle BCD$  - , , BD

$\frac{BD}{\sin \angle BCD} = 2R$

$BD = 2 \cdot 10 \cdot \sin(90^\circ - r)$

$BD = 20 \cos r$

(  $\triangle ADB$  " AZ )

$\triangle ABZ$

$\sin \angle BAZ = \frac{BZ}{AB} = \frac{0.5BD}{AB}$

$\sin r = \frac{10 \cos r}{AB}$

$AB = \frac{10 \cos r}{\sin r}$

$AB = 10 \cot r$

$AB = \frac{10}{\tan r}$   $AB = 10 \cot r$  ∴

$$\angle BCD = 60^\circ$$

$$\triangle ADB - \angle A = 60^\circ, r = 30^\circ$$

$$AB = 10 \cot 30^\circ = 10\sqrt{3} = 17.32$$

$$\angle BDC = 180^\circ - 60^\circ - 70^\circ = 50^\circ - \angle ABC = 60^\circ + 70^\circ = 130^\circ \quad \angle CBD = 70^\circ :$$

$$\triangle ABC - , \quad , BC$$

$$\frac{BC}{\sin \angle BDC} = 2R$$

$$BC = 2 \cdot 10 \cdot \sin 50^\circ$$

$$BC = 15.32$$

$$, ABC \quad AC$$

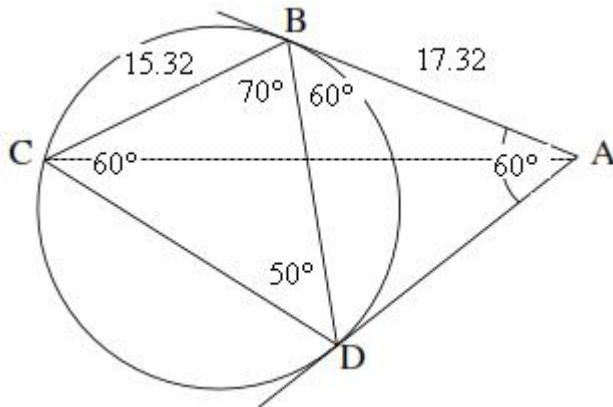
$$(AC)^2 = (BC)^2 + (AB)^2 - 2BC \cdot AB \cdot \cos \angle ABC$$

$$(AC)^2 = 15.32^2 + 17.32^2 - 2 \cdot 15.32 \cdot 17.32 \cdot \cos 130^\circ$$

$$(AC)^2 = 875.8$$

$$AC = 29.59$$

$$AC = 29.59 :$$





$$f(x) = -x^2\sqrt{x+5}$$

$$x+5 \geq 0$$

$$x \geq -5$$

$$x \geq -5 :$$

$$(0,0)$$

$$x=0$$

$$y=0$$

$$(-5,0), (0,0)$$

$$y=0$$

$$x=0$$

$$(-5,0), (0,0) :$$

$$\sqrt{x+5} - x^2$$

$$f(x) > 0$$

$$x$$

$$:$$

$$( )$$

$$(0,0)$$

$$( )$$

$$(-5,0)$$

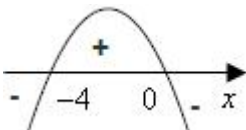
$$f'(x) = -2x\sqrt{x+5} + \frac{-x^2}{2\sqrt{x+5}}$$

$$f'(x) = \frac{-4x(x+5) - x^2}{2\sqrt{x+5}}$$

$$f'(x) = \frac{-5x^2 - 20x}{2\sqrt{x+5}}$$

$$0 = -5x^2 - 20x \rightarrow 0 = 5x(-x-4) \rightarrow x=0, x=-4$$

$$f(-4) = -(-4)^2\sqrt{-4+5} = -16 \rightarrow (-4, -16)$$

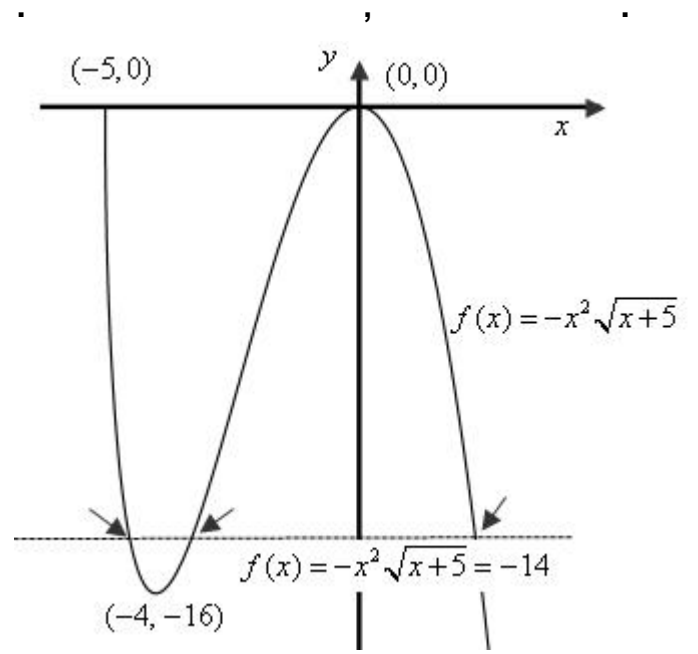


$$x = -4$$

$$x = 0$$

$$(0,0), (-5,0),$$

$$(-4, -16) :$$



,  $f(x) = -14$

,  $-x^2\sqrt{x+5} = -14$

:

.AD = x .DE = " 90 , BD = " 40 ,, DEF B .

.( ) EF || DB , DE || BF , DEF B

.( ) ( ) <AED = <C

.( ) <EFC = <DEF

.( ) ( ) <DEF = <ADE

.( ) ΔEFC ~ ΔADE

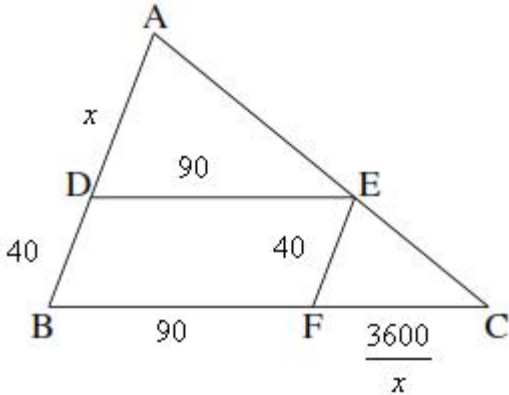
.( )  $\frac{FC}{DE} = \frac{EF}{AD}$

.( )  $\frac{FC}{90} = \frac{40}{x}$

$$FC = \frac{3600}{x}$$

$$.FC = \frac{3600}{x} :$$

.BC - AB סכום הפזצות מנימוס



$$f(x) = x + 40 + 90 + \frac{3600}{x}$$

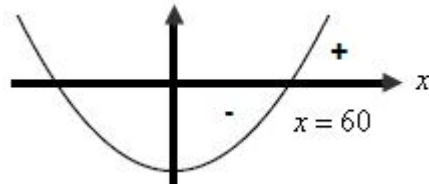
$$f(x) = x + 130 + \frac{3600}{x}$$

$$f'(x) = 1 - \frac{3600}{x^2}$$

$$p(x) = \frac{x^2 - 3600}{x^2}$$

$$0 = x^2 - 3600$$

$$x = 60 \leftarrow x > 0$$



$$, x = 60$$

$$. BC - AB$$

$$x = 60 :$$

$$: x = 60 .$$

$$(100 + 150 = 250 \quad " ) f(60) = 60 + 130 + \frac{3600}{60} = 250$$

$$. " 250 \quad BC - AB$$

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

$$x \neq -0.5 \quad 2x+1 \neq 0 \quad , 0 - \quad "$$

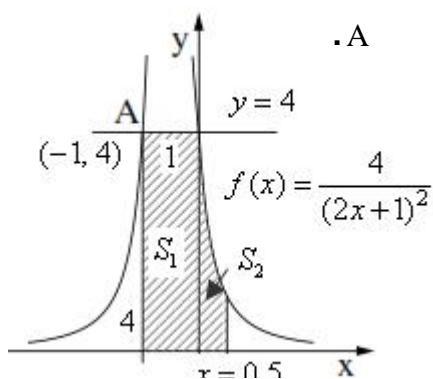
$$x \neq -0.5 :$$

$$x = -0.5 \quad , \quad x = -0.5 .$$

$$y = 0 \quad (0) \quad (2)$$

$$y = 0 \quad , \quad x = -0.5 :$$

$$y = 4 \quad x = 0 \quad y - \quad (1) .$$



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

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

$$(2x+1)^2 = 1$$

$$2x+1 = 1 \quad 2x+1 = -1$$

$$2x = 0 \quad 2x = -2$$

$$x = 0 \quad x = -1 \rightarrow \boxed{A(-1, 4)}$$

$$(-1, 4) \quad A \quad :$$

$$x = 0 \quad , S_1, S_2 : \quad (2)$$

$$S_2 \quad " \quad 4 \quad 1 \times 4 \quad , \quad S_1$$

$$\frac{4}{(2x+1)^2} - 0 = \frac{4}{(2x+1)^2} :$$

$$S_2 = \int_0^{0.5} \left( \frac{4}{(2x+1)^2} \right) dx = \int_0^{0.5} (4 \cdot (2x+1)^{-2}) dx$$

$$S_2 = \frac{4 \cdot (2x+1)^{-1}}{-1 \cdot (2)} \Big|_0^{0.5} = \frac{-2}{2x+1} \Big|_0^{0.5}$$

$$S_2 = \left( \frac{-2}{2 \cdot 0.5 + 1} \right) - \left( \frac{-2}{2 \cdot 0 + 1} \right)$$

$$S_2 = (-1) - (-2)$$

$$\boxed{S_2 = 1}$$

$$S_1 + S_2 = 4 + 1 = 5 :$$

$$" \quad 5 \quad :$$

$S_2$	
$y = \frac{4}{(2x+1)^2}$	
$y = 0$	
$x = 0.5$	$x$
$x = 0$	$x$