

:

$$\begin{cases} mx + (m^2 + 9)y = 3 \\ x + 6y = 1 \end{cases}$$

,

$$x = 1 - 6y$$

$$m(1 - 6y) + (m^2 + 9)y = 3$$

$$m - 6my + m^2y + 9y = 3$$

$$\Leftrightarrow (m^2 - 6m + 9)y = 3 - m$$

$$\Leftrightarrow \boxed{(m-3)^2 y = -(m-3)}$$

$$m = 3$$

$$\begin{cases} 3x + 18y = 3 \\ x + 6y = 1 \end{cases}$$

.( )

$$m = 3$$

$$m \neq 3 :$$

:

:

$$y = -\frac{1}{m-3}$$

$$\boxed{y = \frac{1}{3-m}}$$

$$x = 1 - \frac{6}{3-m}$$

$$x = \frac{3-m-6}{3-m}$$

$$x = \frac{-m-3}{3-m}$$

$$\boxed{x = \frac{m+3}{m-3}}$$

$$\boxed{\left(\frac{m+3}{m-3}, \frac{1}{3-m}\right), m \neq 3}$$

$$\left(\frac{m+3}{m-3}, \frac{1}{3-m}\right), m \neq 3 :$$

$$0 < x < 3$$

$$0 < \frac{m+3}{m-3} < 3 \quad m \neq 3$$

$$\frac{m+3}{m-3} < 3$$

$$\frac{m+3}{m-3} - 3 < 0$$

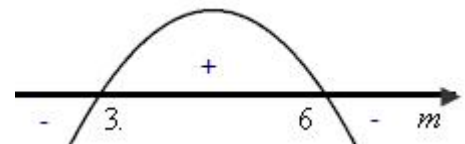
$$\frac{m+3-3(m-3)}{m-3} < 0$$

$$\frac{m+3-3m+9}{m-3} < 0$$

$$\frac{12-2m}{m-3} < 0 \quad / \cdot (m-3)^2$$

$$(12-2m)(m-3) < 0$$

$$m = 3, 6$$



$$m < 3 \quad m > 6 : \mathbf{(1)}$$

$$\frac{m+3}{m-3} > 0 \quad / \cdot (m-3)^2$$

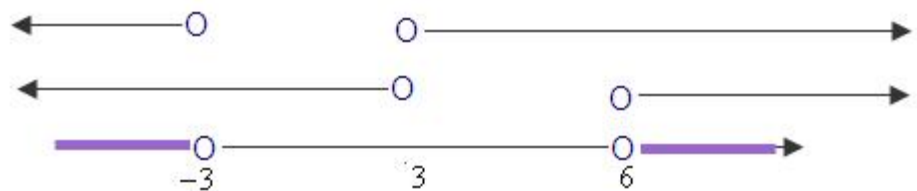
$$(m+3)(m-3) > 0$$

$$m = -3, 3$$



$$m < -3 \quad m > 3 : \mathbf{(2)}$$

$$m \neq 3 \quad , \mathbf{(2)}, \mathbf{(1)}$$



$$m < -3 \quad m > 6 :$$

$$m < -3 \quad m > 6 :$$

"

4

$$\frac{a_{n+2}}{a_n} = \frac{a_n \cdot q^2}{a_n} = q^2 ,$$

$\cdot q^2$

( - )

$2n -$

	-	
$a_2 = a_1 q$	$a_1$	
$q^2$	$q^2$	
$n$	$n$	

$$S_{n(even)} = 4S_{n(odd)} :$$

:

$$S_{n(even)} = 4S_{n(odd)}$$

$$\frac{\cancel{a_1} q ((q^2)^n - 1)}{q^2 - 1} = 4 \cdot \frac{\cancel{a_1} ((q^2)^n - 1)}{q^2 - 1}$$

$$\boxed{q = 4}$$

.4

:

.2688

$a_1 = 2 :$

$$\frac{a_{2n-2}(4^3 - 1)}{4 - 1} = 2688 :$$

$$a_{2n-2} = 128 :$$

:

$$2 \cdot 4^{2n-3} = 128$$

$$4^{2n-3} = 64$$

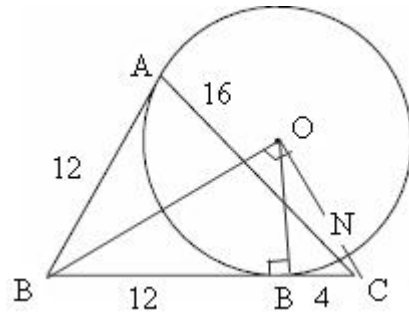
$$4^{2n-3} = 4^3$$

$$2n - 3 = 3$$

$$\boxed{2n = 6}$$

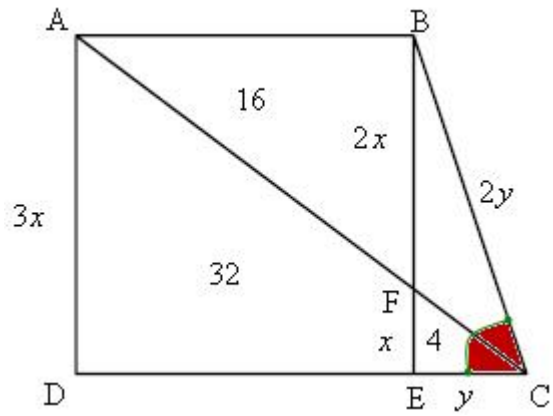
.6

:



- AB, MB .1
- AC = BC .2
- CM = " 4 .3
- AB = " 12 .4
- .
- $\sphericalangle BOC = 90^\circ$  .5
- CN (2) AC (1) . : "
- .

	AB, MB	6	1
	AB = " 12	7	4
	BM = AB	8	6
	BM = " 12	9	8,7
	CM = " 4	10	2
	BC = " 16	11	9
	AC = BC	12	11,10
	AC = " 16	13	12,11
(1) . . . .			
	$CM^2 = AC \cdot CN$	14	6
	$4^2 = 16 \cdot CN$	15	4
	CN = " 1	16	15,14,6
(2) . . . .			
	$\sphericalangle BOC = 90^\circ$	17	5
	$\triangle BOC$ - OM	18	17,6
	$OM^2 = CM \cdot BM$	19	18
	$OM^2 = 4 \cdot 12$	20	19,10,9
	OM = " $\sqrt{48}$	21	20
	" $\sqrt{48}$	22	21
. . . .			



( $\sphericalangle ADC = 90^\circ$  ,  $AB \parallel DC$ )

ABCD .1

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

$\frac{BC}{EC} = 2$  .3

$S_{\triangle EFC} = "$  4 .4

C FC .5

ABF . :

ABED

(2)  $\frac{DC}{EC}$  (1) .

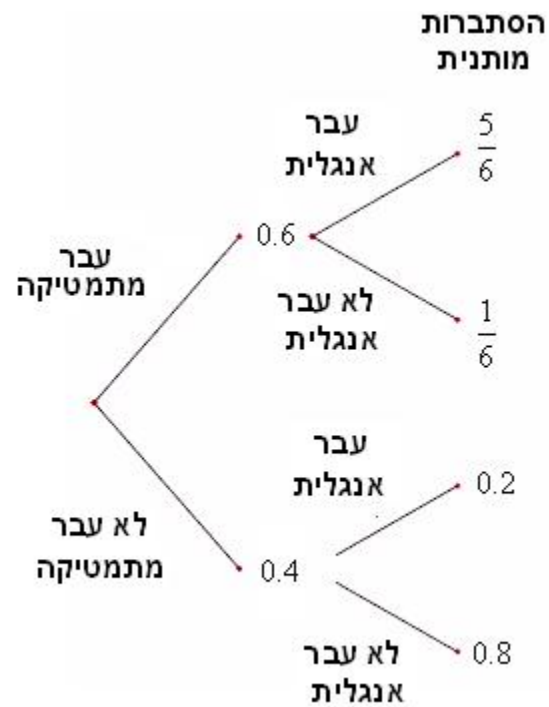
	AB $\parallel$ DC	6	5
	( ) $\sphericalangle ABC = \sphericalangle BEC$	7	5
	( ) $\sphericalangle BAF = \sphericalangle ACE$	8	6,7
( . . )	$\triangle ABF \sim \triangle CEF$	9	8
	$\frac{AB}{CE} = \frac{AF}{CF} = \frac{BF}{EF}$	10	3
	$\frac{BC}{EC} = 2$	11	9,10
	C FC	12	5
,	$\frac{BF}{EF} = \frac{BC}{EC} = \frac{2}{1} = \frac{2x}{x}$	13	12,11
	$\frac{S_{\triangle ABF}}{S_{\triangle CEF}} = 4$	14	10,13
	$S_{\triangle EFC} = "$ 4	15	4
	$S_{\triangle ABF} = "$ 16	16	15,14
. . . .			
	$\sphericalangle ADC = 90^\circ$	20	19
180°	$\sphericalangle DAB = 90^\circ$	21	20,6
	$\sphericalangle BED = 90^\circ$	22	5
	ABED	23	22,21,20
	$AD = BE = 3x$	24	23,13
	AB $\parallel$ DC	25	23

<b>1</b>	$\frac{AD}{EF} = \frac{CD}{CE} = \frac{AC}{CF}$	<b>26</b>	<b>25</b>
<b>...</b>	$\Delta ACD \sim \Delta FCE$	<b>27</b>	<b>26</b>
	$\frac{AD}{EF} = \frac{3x}{x} = 3$	<b>28</b>	<b>24, 13</b>
	$\frac{DC}{EC} = 3$	<b>29</b>	<b>28, 26</b>
<b>(1) . . . .</b>			
	$\frac{S_{\Delta ACD}}{S_{\Delta FCE}} = 9$	<b>30</b>	<b>28, 27</b>
	$S_{\Delta ACD} = "$ 36	<b>31</b>	<b>30, 15</b>
	$S_{\Delta EFC} = "$ 32	<b>32</b>	<b>31, 15</b>
	" 48 ABED	<b>33</b>	<b>31, 16</b>
<b>(2) . . . .</b>			

0.1296

$$p^4 = 0.1296 \rightarrow p = 0.6$$

0.6



( , )

$$P(\text{עובר רק במבחן אחד} \cap \text{עובר במתמטיקה}) = \frac{P(\text{עובר רק במבחן אחד} \cap \text{עובר במתמטיקה})}{P(\text{עובר רק במבחן אחד})}$$

$$P(\text{עובר רק במבחן אחד} \cap \text{עובר במתמטיקה}) = \frac{0.6 \cdot \frac{1}{6}}{0.6 \cdot \frac{1}{6} + 0.4 \cdot 0.2} = \frac{5}{9}$$

 $\frac{5}{9}$ 

:

- S  
- A  
-  $\bar{A}$   
- D  
-  $\bar{D}$

( )

$$P(A) = 0.7 \rightarrow P(\bar{A}) = 0.3$$

$$P(D/A) = 0.7 \rightarrow P(\bar{D}/A) = 0.3$$

$$P(\bar{D}/\bar{A}) = 0.7 \rightarrow P(D/\bar{A}) = 0.3$$

$P(\bar{D}/\bar{A}) = \frac{P(\bar{D} \cap \bar{A})}{P(\bar{A})}$ $0.8 = \frac{P(\bar{D} \cap \bar{A})}{0.3}$ <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <math>P(\bar{D} \cap \bar{A}) = 0.24</math> </div>	$P(D/A) = \frac{P(D \cap A)}{P(A)}$ $0.8 = \frac{P(D \cap A)}{0.7}$ <div style="border: 1px solid black; padding: 2px; display: inline-block;"> <math>P(D \cap A) = 0.56</math> </div>
--	--

	$\bar{A}$	A	
0.62	0.06	0.56	-D
0.38	0.24	0.14	- $\bar{D}$
1	0.3	0.7	

62% :

: ,

$$P(A/D) = \frac{P(A \cap D)}{P(D)} = \frac{0.56}{0.62} = \frac{28}{31}$$

$$\frac{28}{31} :$$

: ,

$$P(A/\bar{D}) = \frac{P(A \cap \bar{D})}{P(\bar{D})} = \frac{0.14}{0.38} = 0.37 < 0.7$$