

$$y = (9 - m)x^2 + (m - 4)x - m + 1$$

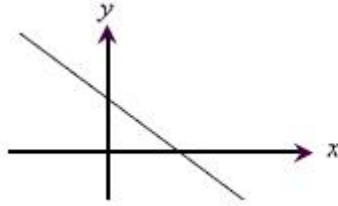
x -

m

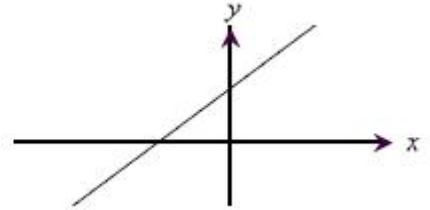
$$a = 9 - m \quad b = m - 4 \quad c = -m + 1$$

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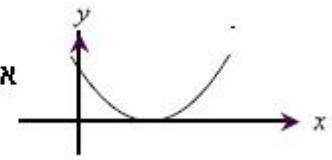
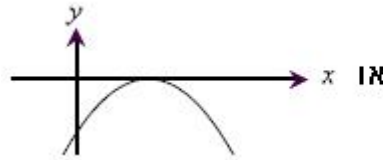
$$9 - m = 0 \rightarrow m = 9 \quad , ( \quad ) a = 0$$

$$m - 4 \neq 0 \rightarrow m \neq 4 \quad , ( x - \quad ) b \neq 0$$

$$\boxed{m = 9} :$$

( \_\_\_\_\_ )

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$$( x - \quad ) \Delta = 0 :$$

$$m \neq 9 \quad , ( \quad ) a \neq 0$$

$$\underline{\Delta = 0}$$

$$\Delta = b^2 - 4ac = 0$$

$$(m - 4)^2 - 4(9 - m) \cdot (-m + 1) = 0$$

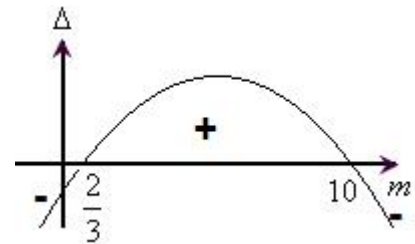
$$m^2 - 8m + 16 - 4(-9m + 9 + m^2 - m) = 0$$

$$m^2 - 8m + 16 + 36m - 36 - 4m^2 + 4m = 0$$

$$-3m^2 + 32m - 20 > 0$$

$$m_{1,2} = \frac{-32 \pm 28}{-6}$$

$$m_1 = 10 \quad m_2 = \frac{2}{3}$$



$$m = 10 \quad m = \frac{2}{3}$$

$$m = \frac{2}{3}, 9, 10 :$$

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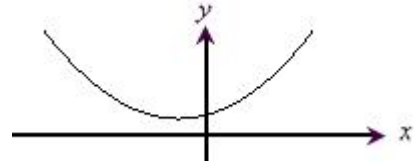
.x -

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(1) .

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.(x -

)  $\Delta < 0$  :

$$m < \frac{2}{3}$$

$$m > 10 :$$

"

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)  $a > 0$

$$9 - m > 0 \rightarrow m < 9$$

$$m < \frac{2}{3} :$$

$$m < \frac{2}{3} :$$

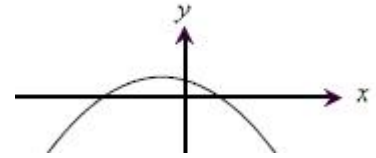
.x -

,

,

(2)

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.(x -

)  $\Delta > 0$  :

$$\frac{2}{3} < m < 10 :$$

"

.(

)  $a < 0$

$$9 - m < 0 \rightarrow m > 9$$

$$9 < m < 10 :$$

$$9 < m < 10 :$$

$q = 2$  ,

2

$a_1, a_2, a_3, \dots, a_n$

$a_3 = a_2 + 2$  ,

2 -  $a_n$

$a_3 = a_2 + 2$

$a_1 q^2 = a_1 q + 2$

$4a_1 = 2a_1 + 2$

$2a_1 = 2$

$a_1 = 1$

$a_1 = 1$  :

$b_1, b_2, b_3, \dots, b_n$  :

$q = 3, S_{10} = 7381$  :

$\frac{a_1}{b_1}, \frac{a_2}{b_2}, \frac{a_3}{b_3}, \dots, \frac{a_n}{b_n}$  :

(1)

$7381 = \frac{a_1(3^{10} - 1)}{3 - 1}$

$\frac{a_1}{b_1} = 0.25$

$\frac{1}{b_1} = 0.25 \leftarrow a_1 = 1$

$b_1 = 4$

$b_1 = 4, \frac{a_1}{b_1} = 0.25$  :

$\frac{a_1}{b_1}, \frac{a_2}{b_2}, \frac{a_3}{b_3}, \dots, \frac{a_n}{b_n} q = 3$  :

(2)

$3 = \frac{\frac{a_{n+1}}{b_{n+1}}}{\frac{a_n}{b_n}}$

$3 = \frac{b_n}{b_{n+1}} \cdot \frac{a_{n+1}}{a_n}$

$3 = \frac{b_n}{b_{n+1}} \cdot 2 \leftarrow q_{a_n} = 2$

$\frac{b_{n+1}}{b_n} = \frac{2}{3}$

$\frac{2}{3} b_n$  :

$$: \quad , \quad b_n = 4 \cdot \frac{8}{27} : \quad q = \frac{2}{3}, \quad b_1 = 4 : \quad , \quad b_1, b_2, b_3, \dots, b_n : \quad (3)$$

$$b_n = 4 \cdot \frac{8}{27}$$

$$4 \cdot \frac{8}{27} = 4 \cdot \left(\frac{2}{3}\right)^{n-1}$$

$$\frac{8}{27} = \left(\frac{2}{3}\right)^{n-1}$$

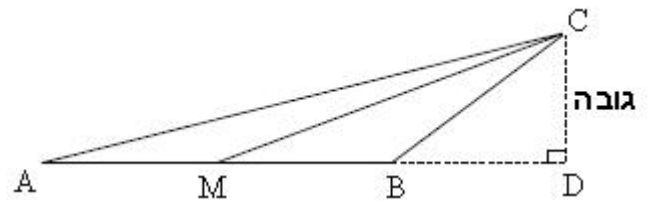
$$\left(\frac{2}{3}\right)^3 = \left(\frac{2}{3}\right)^{n-1}$$

$$3 = n - 1$$

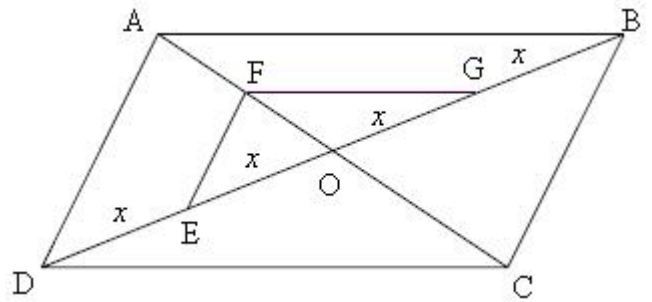
$$\boxed{n = 4}$$

$$.n = 4 :$$

ABC AB CM .1  
 ,  
 ABCD .2  
 ADO EF .3  
 ABO FG .4  
 s ABCD .5  
 : "  
 $S_{\Delta AMC} = S_{\Delta BMC}$   
 .EFG s .



	AB CM	6	1
	AM = BM	7	6
AB C - ,	CD ⊥ AD	8	4
	$S_{\Delta AMC} = S_{\Delta BMC}$	9	8,7
. . .			



	ABCD	10	2
	$AB = CD$	11	10
	$AD = BC$	12	10
	$BD = BD$	13	
. . .	$\triangle ADB \cong \triangle CBD$	14	13, 12, 11
	$S_{\triangle ADB} = \frac{S_{ABCD}}{2}$	15	14
	$S_{ABCD} = s$	16	5
	$S_{\triangle ADB} = \frac{s}{2}$	17	16, 15
	ADO EF	18	3
. .	$EF \parallel AD$	19	18
	$\angle FEO = \angle ADO$	20	19
	ABO FG	21	4
. .	$FG \parallel AB$	22	21
	$\angle FGO = \angle ABO$	23	22
. .	$\triangle EFG \sim \triangle DAB$	24	23, 20
	$\frac{EF}{AD} = \frac{1}{2}$	25	18
	$\frac{EF}{AD} = \frac{EG}{DB} = \frac{FG}{AB} = \frac{1}{2}$	26	25, 24
	$\frac{S_{\triangle EFG}}{S_{\triangle DAB}} = \left(\frac{1}{2}\right)^2 = \frac{1}{4}$	27	26, 24
	$S_{\triangle EFG} = \frac{s}{8}$	28	27, 17
. . .			

AB .2

BD .4

AB .1

BC .3

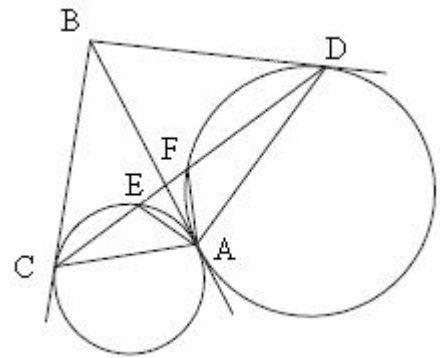
.5

: "

.BC = BD .

$\angle CAE = \angle FAD$  .

CE = FD .



	AB	6	2
	BC	7	3
	BC = BA	8	7,6
	BD	9	4
	AB	10	1
	BC = BA	11	10,9
	BC = BD	12	11,8
. .			
$\triangle ABCD$	$\angle BCE = \angle BDF$	13	12
	$\angle CAE = \angle BCE$	14	3
	$\angle FAD = \angle BDF$	15	9
	$\angle CAE = \angle FAD$	16	15,14
. . .			

		<b>16</b>	<b>5</b>
	- M - N	<b>17</b>	
	( ) MD = NC	<b>18</b>	<b>16</b>
	$\angle FMD = 2 \cdot \angle FAD$	<b>19</b>	<b>17</b>
	$\angle CME = 2 \cdot \angle CAE$	<b>20</b>	<b>17</b>
	( ) $\angle FMD = \angle CNE$	<b>21</b>	<b>20 ,19 ,16</b>
	( ) MD = NC	<b>22</b>	<b>16</b>
. . .	$\Delta FMD \cong \Delta CNE$	<b>23</b>	<b>22 ,21 ,18</b>
. . . . .	CE = FD	<b>24</b>	<b>23</b>
. . . . .			



: 1, 3, 5, 7 - .

. 12 ,13, 15, 17, 31, 35, 37, 51, 53, 57, 71, 73, 75 :

$$\cdot \frac{1}{12} \quad 35$$

$$\frac{1}{12} :$$

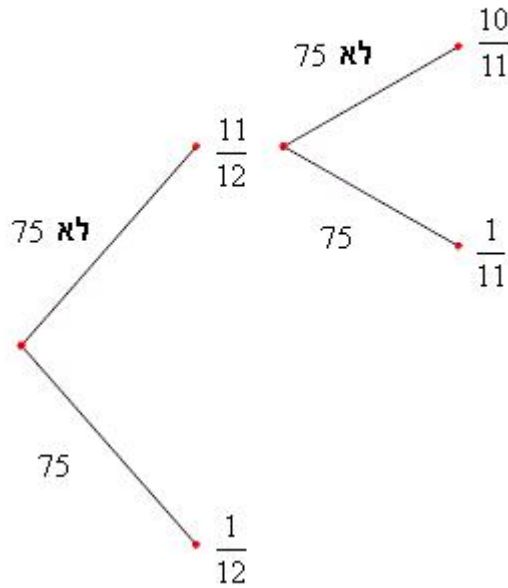
,31 - .

35, 37, 51, 53, 57, 71, 73, 75 : 8

$$\cdot \frac{1}{8} \quad 35$$

:

**הסתברות מותנית**



$$\cdot \frac{1}{12} \quad 75$$

$$\frac{1}{11} : \quad 11 ,$$

$$P(75) = \frac{1}{12} + \frac{11}{12} \cdot \frac{1}{11} = \frac{1}{6}$$

$$\cdot \frac{1}{6} \quad 75 :$$

"

(1) .

- S

- A

-  $\bar{A}$

- D

( )

-  $\bar{D}$

$$N(S) = 1200$$

$$P(\bar{A}) = 0.64 \rightarrow P(A) = 0.36$$

$$P(D/A) = 0.625 \rightarrow P(\bar{D}/A) = 0.375$$

$$P(\bar{D}/\bar{A}) = 0.75 \rightarrow P(D/\bar{A}) = 0.25$$

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

$$0.75 = \frac{P(D \cap A)}{0.64}$$

$$\boxed{P(D \cap A) = 0.48}$$

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

$$0.625 = \frac{P(D \cap A)}{0.36}$$

$$\boxed{P(D \cap A) = 0.225}$$

	$\bar{A}$	A	
0.385	0.16	0.225	-D
0.615	0.48	0.135	- $\bar{D}$
1	0.64	0.36	

$$N(\bar{D}) = P(\bar{D}) \cdot N(S) = 0.615 \cdot 1200 = 738$$

738 :

"

(2)

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

$$P(\bar{A} / \bar{D}) = \frac{0.48}{0.615}$$

$$\boxed{P(\bar{A} / \bar{D}) = 0.7805}$$

$$.0.7805 \quad :$$

$$R = \frac{P(\bar{D} / \bar{A}) \cdot P(\bar{A})}{P(\bar{D} / A) \cdot P(A)} :$$

$$P(\bar{A} / \bar{D}) = \frac{R}{1+R} \quad :$$

.(2)

\_\_\_\_\_ :

.(2)

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