

$$m \neq 0, mx + 4x - 1 = \frac{3-3x}{m}$$

$$m = 0$$

$$mx + 4x - m = \frac{3-3x}{m} \quad / \cdot m$$

$$m^2x + 4mx - m = 3 - 3x$$

$$m^2x + 4mx + 3x = m + 3$$

$$(m^2 + 4m + 3)x = m + 3$$

$$(m+1)(m+3)x = m+3$$

$$0x = 2 \quad m = -1$$

$$0x = 0 \quad m = -3$$

$$m = -3 \quad \mathbf{(1)}$$

$$m = 0, m = -1 \quad \mathbf{(2)}$$

$$m \neq -3, -1, 0 \quad \mathbf{(3)}$$

$$x = \frac{m+3}{(m+1)(m+3)}$$

$$x = \frac{1}{m+1}$$

$$x = \frac{1}{m+1}, \quad m \neq -3, -1, 0$$

$m+1 -$

a

$$\frac{1}{m+1} < m+1$$

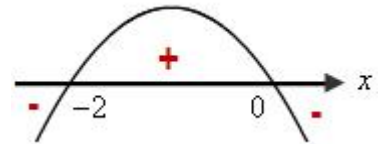
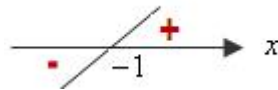
$$\frac{1}{m+1} - m - 1 < 0$$

$$\frac{1 - m(m+1) - 1(m+1)}{m+1} < 0$$

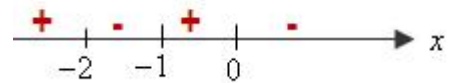
$$\frac{1 - m^2 - m - m - 1}{m+1} < 0$$

$$\frac{-m^2 - 2m}{m+1} < 0$$

$$\frac{m(-m-2)}{m+1} < 0$$



:



, $m \neq -3, -1, 0$

,

$$-2 < m < -1 \quad m > 0 :$$

$$-2 < m < -1 \quad m > 0 :$$

<p>(2) $a_1 + a_5 + a_9 + a_{13} + \dots + a_{45} = 348$</p> <p style="text-align: center;">4, 1</p> <p style="text-align: center;">$45 = 1 + 4(n-1)$</p> <p style="text-align: center;">$44 = 4(n-1)$</p> <p style="text-align: center;">$11 = n-1$</p> <p style="text-align: center;">$n = 12$</p>	<p>(1) $a_2 + a_5 + a_8 + a_{11} + \dots + a_{47} = 488$</p> <p style="text-align: center;">3, 2</p> <p style="text-align: center;">$47 = 2 + 3(n-1)$</p> <p style="text-align: center;">$45 = 3(n-1)$</p> <p style="text-align: center;">$15 = n-1$</p> <p style="text-align: center;">$n = 16$</p>
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12 **(2)** 16 **(1)** :

(2)	(1)	
a_1	$a_2 = a_1 + d$	a_1
$4d$	$3d$	d
12	16	n

<p>(2) $a_1 + a_5 + a_9 + a_{13} + \dots + a_{45} = 348$</p> <p style="text-align: center;">$S_{12}^{(2)} = 348$</p> <p style="text-align: center;">$348 = \frac{12}{2} (2 \cdot a_1 + 4d \cdot (12-1))$</p> <p style="text-align: center;">$348 = 6(2a_1 + 44d) \quad /:6$</p> <p style="text-align: center;">$58 = 2a_1 + 44d$</p>	<p>(1) $a_2 + a_5 + a_8 + a_{11} + \dots + a_{47} = 488$</p> <p style="text-align: center;">$S_{16}^{(1)} = 488$</p> <p style="text-align: center;">$488 = \frac{16}{2} (2 \cdot (a_1 + d) + 3d \cdot (16-1))$</p> <p style="text-align: center;">$488 = 8(2a_1 + 2d + 45d) \quad /:8$</p> <p style="text-align: center;">$61 = 2a_1 + 47d$</p>
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$$\begin{cases} 61 = 2a_1 + 47d \\ 58 = 2a_1 + 44d \quad / \cdot (-1) \end{cases}$$

$$+ \begin{cases} 61 = 2a_1 + 47d \\ -58 = -2a_1 - 44d \end{cases}$$

$$3 = 3d \quad \rightarrow \boxed{d = 1}$$

$$61 = 2a_1 + 47 \cdot 1 \quad \rightarrow 14 = 2a_1 \quad \rightarrow \boxed{a_1 = 7}$$

$\therefore d = 1, a_1 = 7 :$

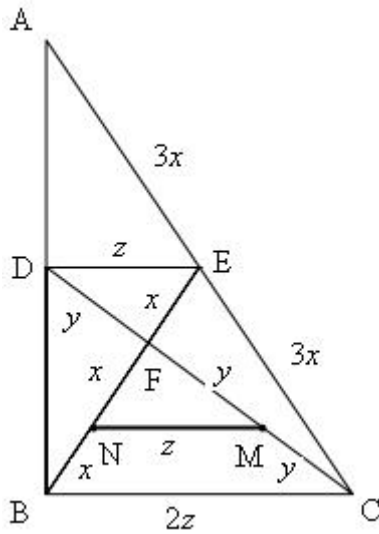
$\therefore a_8 = 14 \quad 4$

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$a_8 = 14, a_{18} = 24, a_{28} = 34, a_{38} = 44, a_{48} = 54$
 $14 + 24 + 34 + 44 + 54 = 170$

170 4

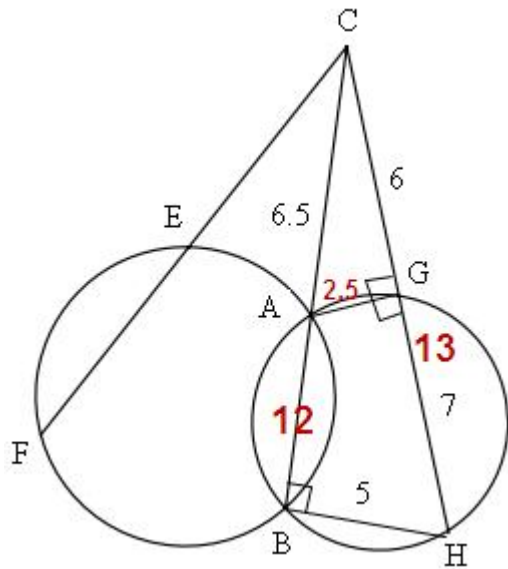
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- $\angle ABC = 90^\circ$.1
- AC BE . 2
- AB CD . 3
- FC M . 4
- FB N . 5
- $\frac{P_{\Delta BFC}}{P_{\Delta EFD}}$. $\frac{FB}{AC}$. : "
- DEMN .

	$\angle ABC = 90^\circ$	6	1
	AC BE	7	2
+	$BE = AE = CE = 3x$	8	7, 6
	AB CD	9	3
2:1	$FB = 2x, FE = x$	10	9, 8, 7
	$AC = 6x$	11	8
	$\frac{FB}{AC} = \frac{1}{3}$	12	11, 10
. . .			
	ΔABC DE	13	9, 7
	$\frac{DE}{BC} = \frac{1}{2}$	14	13
2:1	$\frac{DF}{CF} = \frac{1}{2}$	15	9, 7
ΔEFD - 2 ΔBFC -	$\frac{P_{\Delta BFC}}{P_{\Delta EFD}} = 2$	16	15, 14, 10
. . .			
	FC M	17	4
	FB N	18	17
	ΔBFC MN	19	18, 17
	$\frac{MN}{BC} = \frac{1}{2}$	20	19

	MN = DE	21	20 ,14
	MN BC	22	19
	DE BC	23	13
-	MN DE	24	23 ,22
	DEM N	25	21,24
. . .			



GH = " 7 .1
 CE · CF " 78 .2

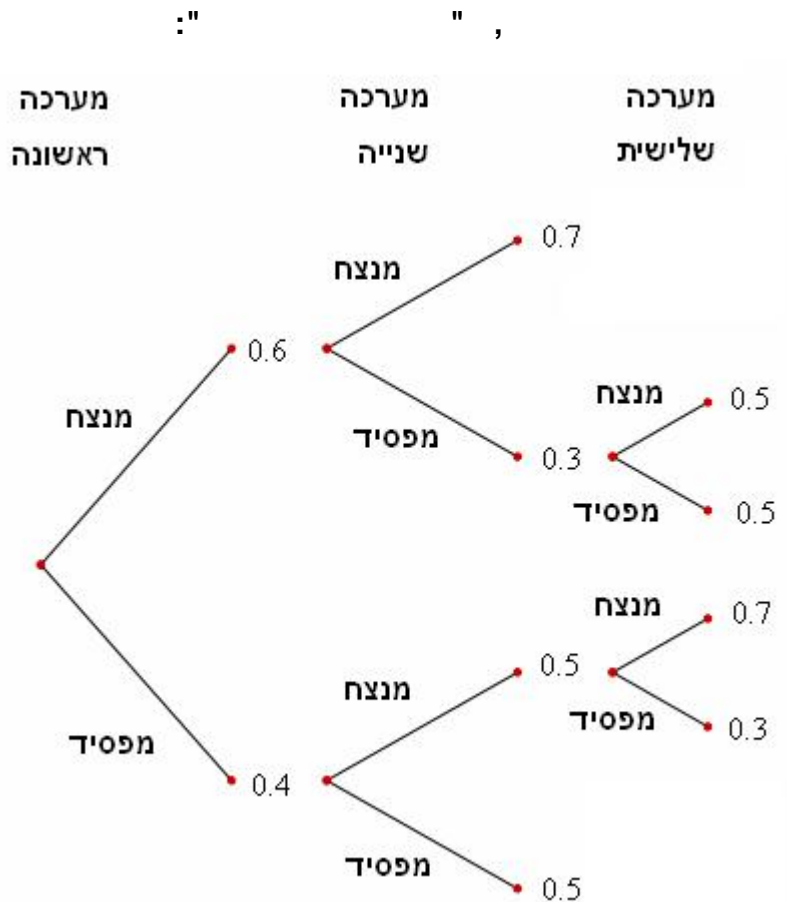
$\angle CBH = 90^\circ$.3
 BH = " 5 .4

CH . CE · CF = CG · CH . : "

$\frac{S_{\Delta ACG}}{S_{\Delta HCB}}$. CA .

()	$CE \cdot CF = CA \cdot CB$	5	
()	$CG \cdot CH = CA \cdot CB$	6	
	$CE \cdot CF = CG \cdot CH$	7	6,5
. . .			
	$CE \cdot CF = 78$	8	2
	$GH = 7$	9	1
	$78 = CG \cdot (CG + 7)$	10	9,8,7
	$CG^2 + 7CG - 78 = 0$ $(CG)_{1,2} = \frac{-7 \pm 19}{2}$ $CG = 6 \leftarrow CG > 0$	12	11,10
	$CH = 13$	13	12,9
. . .			
	$\angle CBH = 90^\circ$	14	3
	$BH = 5$	15	4
ΔCBH	$(CH)^2 = (CB)^2 + (BH)^2$ $13^2 = (CB)^2 + 5^2$	16	15,14,13
	$CB = 12$	17	16
	$78 = CA \cdot 12$	18	17,8,5

	CA = " 6.5	19	18
. . .			
180°	∠AGH = 90°	20	14
180° -	∠AGC = 90°	21	20
ΔACG	$(CA)^2 = (CG)^2 + (AG)^2$ $6.5^2 = 6^2 + (AG)^2$	22	21 ,19 ,12
	AG = " 2.5	23	22
,	$\frac{S_{\Delta ACG}}{S_{\Delta HCB}} = \frac{\frac{6 \cdot 2.5}{2}}{\frac{12 \cdot 5}{2}} = \frac{1}{4}$	24	,15 ,14 ,12 23 ,21 ,17
. . .			



$$P(\text{2 - } | \text{2 - }) = 0.6 \cdot 0.7 + 0.4 \cdot 0.5 = 0.62$$

.0.62 2 - :

2 - ,

$$P(\text{המשחק הוכרע ב- 2 מערכות בלבד} \cap \text{גיל מנצח}) = \frac{P(\text{המשחק הוכרע ב- 2 מערכות בלבד} \cap \text{גיל מנצח})}{P(\text{המשחק הוכרע ב- 2 מערכות בלבד})}$$

$$= \frac{0.6 \cdot 0.7}{0.6 \cdot 0.7 + 0.4 \cdot 0.5} = \frac{0.42}{0.62} = \frac{21}{31}$$

$$\cdot \frac{21}{31} :$$

2 - .

$$P(\text{גיל מנצח} \cap \text{המשחק הוכרע ב- 2 מערכות בלבד}) = \frac{P(\text{גיל מנצח} \cap \text{המשחק הוכרע ב- 2 מערכות בלבד})}{P(\text{גיל מנצח})}$$

$$= \frac{0.6 \cdot 0.7}{0.6 \cdot 0.7 + 0.6 \cdot 0.3 \cdot 0.5 + 0.4 \cdot 0.5 \cdot 0.7} = \frac{0.42}{0.65} = \frac{42}{65}$$

$$\cdot \frac{42}{65} :$$

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

- \bar{A}

()

$$P(D) = 0.1 \rightarrow P(\bar{D}) = 0.9$$

$$P(A/D) = 0.95 \rightarrow P(\bar{A}/D) = 0.05$$

$$P(A/\bar{D}) = 0.01 \rightarrow P(\bar{A}/\bar{D}) = 0.99$$

$P(A/\bar{D}) = \frac{P(A \cap \bar{D})}{P(\bar{D})}$ $0.01 = \frac{P(A \cap \bar{D})}{0.9}$ <div style="border: 1px solid black; padding: 2px; display: inline-block;"> $P(A \cap \bar{D}) = 0.009$ </div>	$P(A/D) = \frac{P(A \cap D)}{P(D)}$ $0.95 = \frac{P(A \cap D)}{0.1}$ <div style="border: 1px solid black; padding: 2px; display: inline-block;"> $P(A \cap D) = 0.095$ </div>
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	\bar{A}	A	
0.1	0.005	0.095	- D
0.9	0.891	0.009	- \bar{D}
1	0.896	0.104	

$$P(D/A) = \frac{P(D \cap A)}{P(A)} = \frac{0.095}{0.104} = 0.913 < 95\%$$

$$P(D/\bar{A}) = \frac{P(D \cap \bar{A})}{P(\bar{A})} = \frac{0.005}{0.896} = 0.056 > 1\%$$

$$P(D/A) = 0.913 \rightarrow P(\bar{D}/A) = 0.087 < 10\%$$

"

