

$$x - 2 = a(a - 3 - x)$$

a

$$x - 2 = a(a - 3 - x)$$

$$x - 2 = a^2 - 3a - ax$$

$$x + ax = a^2 - 3a + 2$$

$$x(a + 1) = (a - 1)(a - 2)$$

$$0x = 6 \quad a = -1$$

$$a \neq -1 \quad :$$

$$a \neq -1 \quad .$$

$$x = \frac{a^2 - 3a + 2}{a + 1}$$

$$x + 2 < 0$$

a

$$\frac{a^2 - 3a + 2}{a + 1} + 2 < 0$$

$$\frac{a^2 - 3a + 2 + 2a + 2}{a + 1} < 0$$

$$\frac{a^2 - a + 4}{a + 1} < 0$$

$$\Delta = 1 - 16 = -15 < 0 \quad ,$$

a ()

$$a + 1 < 0 \rightarrow \boxed{a < -1} :$$

$$a < -1 :$$

$\cdot q$

$\cdot q$

$$\frac{a_{n+1}}{a_n} = q,$$

$$a_1 + a_2 = 48, \quad " \quad 48$$

$$S_4 = 2S_{2-5} : \quad , (\quad) \quad 4$$

4		
$a_2 = a_1q$	a_1	
q	q	
4	5	

:

$$\begin{cases} 1. & a_1 + a_2 = 48 \\ 2. & S_4 = 2S_{2-5} \end{cases}$$

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

$$1 = 2q$$

$$\boxed{q = 0.5}$$

$$1. \quad a_1 + a_1q = 48$$

$$a_1(1+0.5) = 48$$

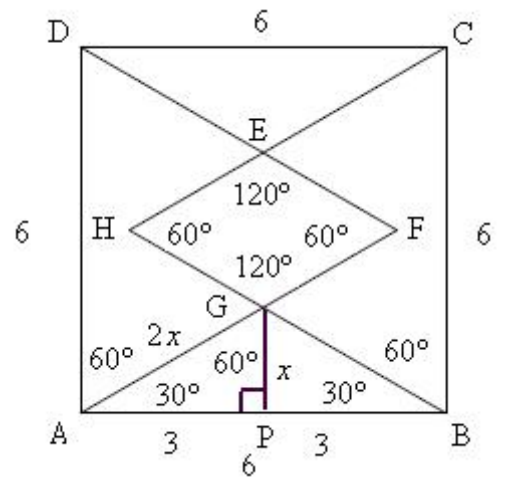
$$\boxed{a_1 = 32}$$

$$S_5 = \frac{32 \cdot (0.5^5 - 1)}{0.5 - 1}$$

$$\boxed{S_5 = 62}$$

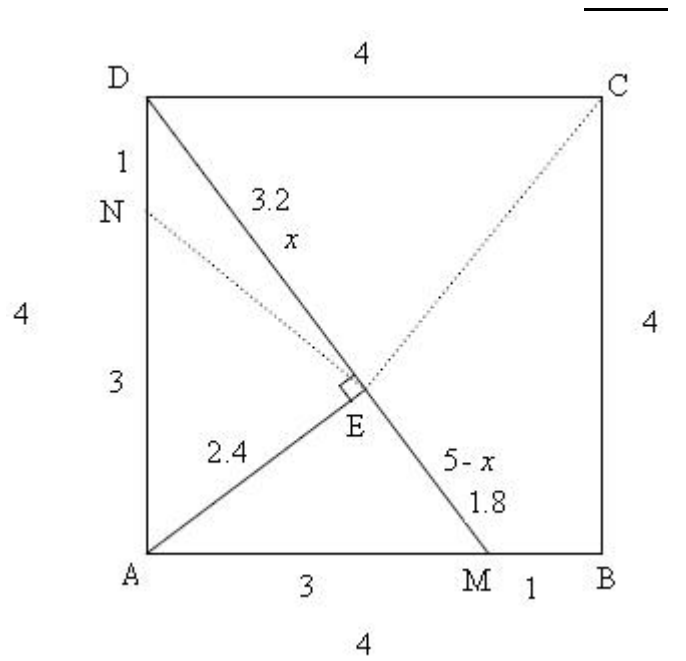
. " 62 :

	ABCD	.1
	AFD	.2
	BHC	.3
" 6		.4
		: "
	HEFG	.
ABG	AB	.



	ABCD	5	1
	$\angle A = \angle B = 90^\circ$	6	5
	AFD	7	2
60° - "	$\angle AFD = \angle FAD = 60^\circ$	8	7
	BHC	9	2
60° - "	$\angle GHE = \angle CBH = 60^\circ$	10	9
	$\angle GAB = \angle GBA = 30^\circ$	11	10 ,8 ,6
180° - ΔGAB	$\angle BGA = 120^\circ$	12	11
	$\angle HGF = 120^\circ$	13	12
360° HEFG	$\angle HEF = 120^\circ$	14	13 ,10 ,8
	HEFG	15	14 ,13 ,10 ,8
	AF = AD	16	7
	BH = BC	17	9
	AD = BC	18	5
	BH = AF	19	18 ,17 ,16
ΔGAB	BG = AG	20	11
	BH - BG = AF - AG	21	20 ,19
	BG = AG	22	21
	HEFG	23	22 ,15
. . .			
ABG	-	GP \perp AB	24
		$\angle GPA = 90^\circ$	25
		GP = x	26
$30^\circ, 60^\circ, 90^\circ$	30°	AG = 2x	27
		AB = " 6	28
		AP = " 3	29
	ΔAPG	$(2x)^2 = x^2 + 3^2$ $x = \sqrt{3}$	30
		" $\sqrt{3}$	31
. . .			

$ABCD$.1
 $MB = ND = 1$.2
 $MD = AE$.3
 4 .4
 $:$ "
 MD (1) .
 AE, DE (2)
 $\triangle AEN \sim \triangle DEC$.



	ABCD	5	1
	$AB = AD = CD = 4$	6	4
	$MB = ND = 1$	7	2
	$AM = AB - BM$	8	
	$AM = 4 - 1 = 3$	9	8,7,6
	$\angle DAM = 90^\circ$	10	5
$\triangle AED$	$(MD)^2 = 3^2 + 4^2$	11	10,9,6
	$MD = 5$	12	10
(1) . . .			
	$DE = x$	13	
	$ME = 5 - x$	14	13,12
	$\angle DEA = \angle DEM = 90^\circ$	15	5
$\triangle AED$	$(AE)^2 = 4^2 - x^2$	16	15,13,6
$\triangle AEM$	$(AE)^2 = 3^2 - (5 - x)^2$	17	15,14,9
	$4^2 - x^2 = 3^2 - (5 - x)^2$	18	17,16
	$x = 3.2$	19	18
	$DE = 3.2$	20	5
	$(AE)^2 = 4^2 - 3.2^2$	20	20,16
	$AE = 2.4$	21	20
(2) . . .			
	$\frac{DC}{DE} = \frac{4}{3.2} = 1.25$	22	20,6
	$\frac{AN}{AE} = \frac{3}{2.4} = 1.25$	23	21,9
	$(. .) \frac{DC}{DE} = \frac{AN}{AE}$	24	23,22
$180^\circ \triangle AED$	$\angle ADG = 90^\circ - \angle DAE$	25	15
	$\angle ADC = 90^\circ$	26	5
	$() \angle CDE = \angle DAE$	27	26,25
. .	$\triangle AEN \sim \triangle DEC$	29	27,24

50 -

50 -

4 3

4 ,

3

$$n = 4, p = \frac{1}{3},$$

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

" 4 3 " :

4

3

$$P_4(4) = \binom{4}{4} \left(\frac{1}{3}\right)^4 \left(1 - \frac{1}{3}\right)^{4-4}$$

$$P_4(3) = \binom{4}{3} \left(\frac{1}{3}\right)^3 \left(1 - \frac{1}{3}\right)^{4-3}$$

$$P_4(4) = \frac{4!}{4!(4-4)!} \cdot \left(\frac{1}{3}\right)^4 \cdot \left(\frac{2}{3}\right)^0$$

$$P_4(3) = \frac{4!}{4!(4-3)!} \cdot \left(\frac{1}{3}\right)^3 \cdot \frac{2}{3}$$

$$P_4(4) = 1 \cdot \left(\frac{1}{3}\right)^4 \cdot 1$$

$$P_4(3) = 4 \cdot \left(\frac{1}{3}\right)^3 \cdot \frac{2}{3}$$

$$P_4(4) = \frac{1}{81}$$

$$P_4(3) = \frac{8}{81}$$

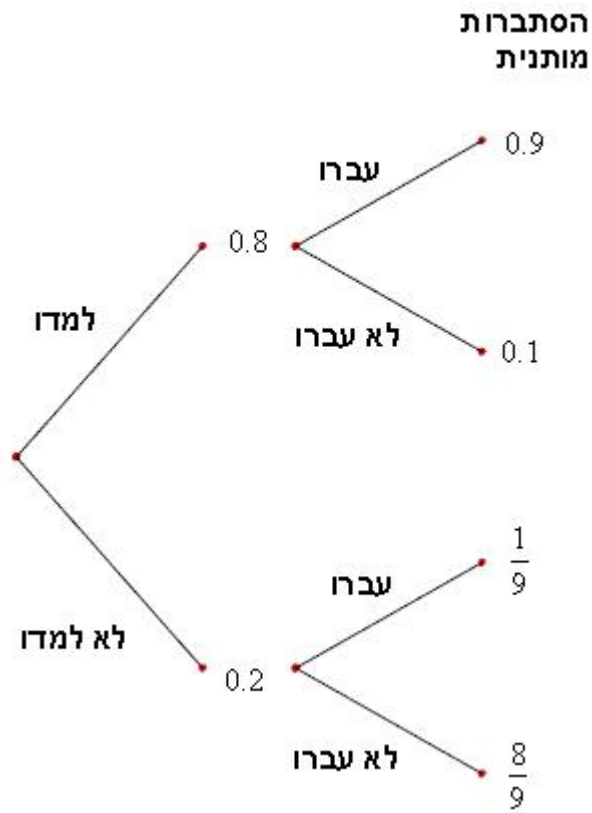
$$P = \frac{8}{81} + \frac{1}{81} = \frac{1}{9} :$$

 $\frac{1}{9}$

50 -

:

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,

20%

$P(\text{ }) = 0.8$

$P(\text{ }) = 0.2$:

, 50 -

90%

$P(\text{ } / \text{ }) = 0.1$

$P(\text{ } / \text{ }) = 0.9$:

$\frac{1}{9}$,

$P(\text{ } / \text{ }) = \frac{8}{9}$

$P(\text{ } / \text{ }) = \frac{1}{9}$:

$$P(A \cap B) = P(A) \cdot P(B|A) = 0.2 \cdot \frac{1}{9} = \frac{1}{45}$$

$$\frac{1}{45} :$$

(2)

$$P(\text{לא עברו} / \text{למדו}) = \frac{P(\text{לא עברו} \cap \text{למדו})}{P(\text{לא עברו})} = \frac{0.8 \cdot 0.1}{0.8 \cdot 0.1 + 0.2 \cdot \frac{8}{9}} = \frac{9}{29}$$

$$\frac{9}{29} :$$

- S

- A

- B

- M

()

- \bar{M}

$$P(M/B) = 0.5 \rightarrow P(\bar{M}/B) = 0.5$$

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

: " ,

10

$$\frac{P(M/B)}{P(M/A)} = \frac{0.5}{0.05} = 10$$

$$P(B/M) > P(B/A)$$

$$\frac{P(B/M)}{P(A/M)} = \frac{P(M/B)}{P(M/A)} \cdot \frac{P(B)}{P(A)} = \frac{1}{3} \cdot \frac{P(B)}{P(A)} > 1 :$$

, (" ")

(

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,

,

$$N(A) = 12N(B) \quad (1)$$

$$: \quad N(S) -$$

$$P(A) = 12P(B)$$

$$\frac{P(B)}{P(A)} = \frac{1}{12}$$

$$\frac{P(B/M)}{P(A/M)} = \frac{P(M/B)}{P(M/A)} \cdot \frac{P(B)}{P(A)} = 10 \cdot \frac{1}{12} = \frac{5}{6} :$$

:

$$\frac{5}{6} -$$

1

(2)

$$\frac{P(B/M)}{P(A/M)} = 1$$

$$1 = 10 \cdot \frac{P(B)}{P(A)}$$

$$\frac{P(B)}{P(A)} = \frac{1}{10}$$

1:10

1:10

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