

: a , , .

$$\begin{cases} 3x - y + a - 1 = 0 \\ x - y + 3a + 3 = 0 \end{cases}$$

. a

$$\begin{cases} 3x - y + a - 1 = 0 \\ x - y + 3a + 3 = 0 \end{cases} \rightarrow \boxed{x = y - 3a - 3}$$

$$3(y - 3a - 3) - y + a - 1 = 0$$

$$3y - 9a - 9 - y + a - 1 = 0$$

$$2y = 8a + 10$$

$$y = 4a + 5$$

$$x = 4a + 5 - 3a - 3$$

$$x = a + 2$$

. (a + 2, 4a + 5) :

: y = 0 x - (1) .

$$0 = 4a + 5 \rightarrow \boxed{a = -1.25} \rightarrow x = a + 2 = -1.25 + 2 = 0.75 \rightarrow (0.75, 0)$$

: x = 0 y -

$$0 = a + 2 \rightarrow \boxed{a = -2} \rightarrow y = 4a + 5 = 4 \cdot (-2) + 5 = -3 \rightarrow (0, -3)$$

. a = -2 , a = -1.25 :

. (1) - (2)

. (0, -3) , (0.75, 0) :

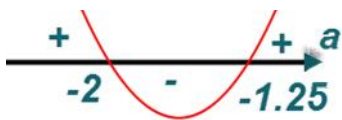
. (a + 2) \cdot (4a + 5) < 0 , x \cdot y < 0 (a + 2, 4a + 5) (1) .

. -2 < a < -1.25 ,()

. -2 < a < -1.25 :

x \cdot y < 0 y > 0 - x < 0 (2)

, -2 < a < -1.25 a + 2 < 0 \rightarrow a < -2



. :

$$: \quad n \quad a_n \quad (1) .$$

$$\begin{cases} a_1 = 4 \\ a_{n+1} = a_n + 7n + P \end{cases}$$

$$(n=1) \quad a_2 = a_1 + 7 \cdot 1 + P = 4 + 7 + P = 11 + P$$

$$(n=2) \quad a_3 = a_2 + 7 \cdot 2 + P = 11 + P + 14 + P = 25 + 2P$$

$$. a_3 = 25 + 2P , a_2 = 11 + P :$$

(2)

$$? \quad a_3 - a_2 = a_2 - a_1$$

$$? \quad 25 + 2P - (11 + P) = 11 + P - 4$$

$$? \quad 25 + 2P - 11 - P = 7 + P$$

$$? \quad 14 + P \neq 7 + P$$

$$. b_n = 2a_n - 7n^2 \quad n \quad b_n .$$

$$. b_{n+1} - b_n ,$$

$$b_{n+1} = 2a_{n+1} - 7(n+1)^2$$

$$b_{n+1} = 2(a_n + 7n + P) - 7(n^2 + 2n + 1)$$

$$b_{n+1} = 2a_n + 14n + 2P - 7n^2 - 14n - 7$$

$$b_{n+1} = 2a_n - 7n^2 + 2P - 7$$

:

$$b_{n+1} - b_n = 2a_n - 7n^2 + 2P - 7 - (2a_n - 7n^2)$$

$$b_{n+1} - b_n = 2a_n - 7n^2 + 2P - 7 - 2a_n + 7n^2$$

$$b_{n+1} - b_n = 2P - 7$$

(n -)

$$b_1 = 2a_1 - 7 \cdot 1^2 = 2 \cdot 4 - 7 = 1 , d = 2P - 7 :$$

$$. d , b_2 - b_1 = 3 \quad (1) .$$

$$. P = 5 - \quad 2P = 10 \quad 2P - 7 = 3$$

$$. d = 2 \cdot 5 - 7 = 3 : \quad . P = 5 :$$

$$. d = 3 - b_1 = 1 \quad (2)$$

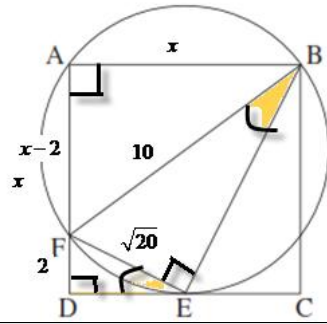
$$b_{20} = b_1 + 19d = 1 + 19 \cdot 3 = 58$$

$$b_{20} = 2a_{20} - 7 \cdot 20^2 \rightarrow 58 = 2a_{20} - 2,800 \rightarrow 2,858 = 2a_{20} \rightarrow a_{20} = 1,429$$

$$. a_{20} = 1,429 :$$

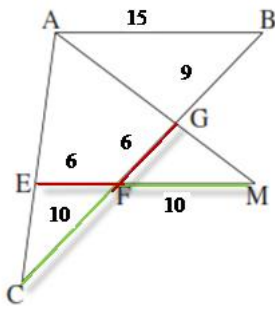
35005

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E - DC .2 ABCD .1
 FD = " 2 .4 " 5 .3 .
 . EF ΔEDF ~ ΔBEF . : "

| | | | |
|--------------|---|----|------------|
| | | | |
| | ABCD | 5 | 1 |
| | $\sphericalangle A = 90^\circ$ | 6 | 5 |
| ABEF | $\sphericalangle FEB = 90^\circ$ | 7 | 6 |
| | 180° | | |
| | $\sphericalangle D = 90^\circ$ | 8 | 5 |
| | () $\sphericalangle D = \sphericalangle FEB$ | 9 | 8,7 |
| | E - DC | 10 | 2 |
| | () $\sphericalangle DEF = \sphericalangle FBE$ | 11 | 10 |
| | $\Delta EDF \sim \Delta BEF$ | 12 | 11,10 |
| . . . | | | |
| | $\frac{ED}{BE} = \frac{EF}{BF} = \frac{DF}{EF}$ | 13 | 12 |
| | " 5 | 14 | 3 |
| | BF = " 10 | 15 | 14,6 |
| | FD = " 2 | 16 | 4 |
| | $EF^2 = BF \cdot DF = 10 \cdot 2$ | 17 | 13 |
| | EF = " $\sqrt{20}$ | 18 | 17 |
| . . . | | | |
| | AB = x | 19 | |
| | AD = x | 20 | 19,5 |
| | AF = x - 2 | 22 | 20,16 |
| | $OK = 0.5R$ | 23 | 22,21 |
| ΔABF | $10^2 = x^2 + (x-2)^2$ $100 = x^2 + x^2 - 4x + 4$ $2x^2 - 4x - 96 = 0$ $x_{1,2} = \frac{4 \pm 28}{4}$ $x = 8$ $\leftarrow x > 0$ | 24 | 22,20,15,6 |
| | " 8 | 25 | 24 |
| . . . | | | |



$CF = FM$.3 $\sphericalangle AGC = \sphericalangle AEM$.2 $EF \parallel AB$.1

$$\frac{GM}{GA} = \frac{2}{3} \text{ .6 } AB = " 15 \text{ .5 } EF = " 6 \text{ .4 .}$$

BC . $\triangle GBA \sim \triangle GFM$. $\triangle EFC \cong \triangle GFM$. : "

| | | | |
|---------------|---|----|----------|
| | | | |
| | $\sphericalangle AGC = \sphericalangle AEM$ | 7 | 2 |
| | $\sphericalangle FGM = \sphericalangle FEC$ | 8 | 7 |
| | () $\sphericalangle GFM = \sphericalangle EFC$ | 9 | |
| $180^\circ -$ | () $\sphericalangle GMF = \sphericalangle ECF$ | 10 | 9,8 |
| | () $CF = FM$ | 11 | 3 |
| | $\triangle EFC \cong \triangle GFM$ | 12 | 10,11,9 |
| . . . | | | |
| | $EF \parallel AB$ | 11 | 1 |
| - | $FM \parallel AB$ | 12 | 11 |
| 2 | $\frac{AB}{FM} = \frac{AG}{GM} = \frac{BG}{GF}$ | 13 | 12 |
| | $\triangle GBA \sim \triangle GFM$ | 14 | 13 |
| . . . | | | |
| | $EF = " 6$ | 15 | 4 |
| | $FG = " 6$ | 16 | 15,12 |
| | $\frac{GM}{GA} = \frac{2}{3}$ | 17 | 6 |
| | $\frac{GB}{GF} = \frac{AB}{FM} = \frac{2}{3}$ | 18 | 17,13 |
| | $GB = " 9$ | 19 | 18,16 |
| | $AB = " 15$ | 20 | 5 |
| | $FM = " 10$ | 21 | 20,18 |
| | $FC = " 10$ | 22 | 21,12 |
| | $BC = " 25$ | 23 | 22,19,16 |
| . . . | | | |

35005 13
 . 0.6 , 0.4 ,

: , , : /
 $p = 0.4 \cdot 0.6 \cdot 0.4 \cdot 0.6 = 0.0576$

. 0.0576 :
 . 0.1 0.9

$k = 2, p = 0.6, n = 4$, (1)

$$P_4(2) = \binom{4}{2} (0.6)^2 (1-0.6)^{4-2}$$

$$P_4(2) = \frac{4!}{2!(4-2)!} \cdot 0.6^2 \cdot 0.4^2$$

$$P_4(2) = 6 \cdot 0.6^2 \cdot 0.4^2$$

$$P_4(2) = 0.3456$$

$p = 0.3456 \cdot 0.9 = 0.31104$:

.031104 :
 $k = 3, p = 0.6, n = 4$, (2)

$$P_4(3) = \binom{4}{3} (0.6)^3 (1-0.6)^{4-3}$$

$$P_4(3) = \frac{4!}{3!(4-3)!} \cdot 0.6^3 \cdot 0.4$$

$$P_4(3) = 4 \cdot 0.6^3 \cdot 0.4$$

$$P_4(3) = 0.3456$$

$p = 0.3456 \cdot 0.1 = 0.03456$:

.03456 :
 : 5 3 (3)

.03456 (2) - ,
 .031104 (1) - ,

$p = 0.03456 + 0.31104 = 0.3456$:

.03456 :

- C

- B

- S

- A

- \bar{D}

- D

$$P(D) = 0.06 \rightarrow P(\bar{D}) = 0.94$$

$$P(A/D) = \frac{2}{3} \rightarrow P(\bar{A}/D) = \frac{1}{3}$$

$$P(D/A) = \frac{1}{15} \rightarrow P(\bar{D}/A) = \frac{14}{15}$$

$$N(B) = 4N(C) \rightarrow P(B) = 4P(C)$$

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

$$\frac{1}{15} = \frac{0.04}{P(A)}$$

$$P(A) = 0.6 \rightarrow P(A \cap \bar{D}) = 0.56$$

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

$$\frac{2}{3} = \frac{P(A \cap D)}{0.06}$$

$$P(A \cap D) = 0.04$$

$$P(B) + P(C) = 1 - 0.6 = 0.4$$

$$4P(C) + P(C) = 0.4 \rightarrow P(C) = 0.08 \rightarrow P(B) = 0.32$$

.(*)

| | C | B | A | |
|------|--------|--------|------|-----------|
| 0.06 | * 0.01 | * 0.01 | 0.04 | -D |
| 0.94 | * 0.07 | * 0.31 | 0.56 | \bar{D} |
| 1 | 0.08 | 0.32 | 0.6 | |

8% - , 32% - , 60% - :

$$P(\bar{D}/B) = \frac{31}{32} \rightarrow P(D/B) = \frac{1}{32}$$

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

.(*)

$$\frac{31}{32} = \frac{P(\bar{D} \cap B)}{0.32}$$

$$P(\bar{D} \cap B) = 0.31$$

$$P(D/B) = \frac{P(D \cap B)}{P(B)} = \frac{0.01}{0.32} = \frac{1}{32} \neq P(D/C) = \frac{P(D \cap C)}{P(C)} = \frac{0.01}{0.08} = \frac{1}{8} :$$

. :