**II** (                     )

**9**

– 4                                          .

**:**

7                                               .
6-7                  ,                            ,                       .
5-6                  ,                           ,                                    ,
                  .

4                      ,                                      (                )          ,
        «          +          »                                   .
2-3                        ,                                               ,
          .

1                        ,                                                       .
0              ,              ,                                    .

**1**
                                    .                                                    ,
                              ?

**7**
        **:**            .

                              **:**                                              ?
                        ,                                          **:**                        ,
                        ,  . .                          ,              ,                      .
                    .                                        ,                              .
                                        0              .

**2**
                              **:**

$\sqrt{a + b\sqrt{2}}$
        $a$      $b$ –            ,                  .                  ,                                **:**
$\sqrt{c + d\sqrt{7}}$
        $c$      $d$ –            ,                  .
            ?

**7**
        **:**      .

                  ,                  **:**
$\sqrt{3 + \sqrt{2}} + \sqrt{3 - \sqrt{2}} = \sqrt{6 + 2\sqrt{7}}$ .

                                                          .                                          ?
                        ,                        .
                                                              **:**
$\sqrt{A + B\sqrt{2}} + \sqrt{A - B\sqrt{2}} = \sqrt{C + D\sqrt{7}}$                                      (*)

                        ,              **:**

$$2A + 2\sqrt{A^2 - 2B^2} = C + D\sqrt{7}$$

, $A$   $B$,   $A^2 - 2B^2 = 7$,
$C = 2A, D = 2$.

.              $A^2 - 2B^2 = 7$                                              .

(*)                                              .              ,

$A^2 - 2B^2 = 1$                                                      .

0              .


**3**

,              $AA_1$   $BB_1$                    $ABC$                                                      ,

$a^2 + b^2 = 5c^2$.

**7**

$M$ —                                        $AA_1$   $BB_1$.        $AMB$                                              ,

$AM^2 + BM^2 = AB^2$,   . . $4(m_a^2 + m_b^2)/9 = c^2$.                    ,

$(m_a^2 = (2b^2 + 2c^2 - a^2)/4$.

)  $m_a^2 + m_b^2 = (4c^2 + a^2 + b^2)/4$,                                        .


**4**

,                              $a, b$   $c$                                    :

$|a - b| \geq |c|, \ |b - c| \geq |a|, \ |c - a| \geq |b|$,

.

**7**

$|a - b| \geq |c|$                                        ,

$(a - b)^2 - c^2 \geq 0$.                                                      ,

: $(a - b - c)(a - b + c) \geq 0$,        ,                        , $(a - b - c)(b - c - a) \leq 0$.

,                        $(b - c - a)(c - a - b)$   $(c - a - b)(a - b - c)$                              .

,        $(a - b - c)^2(b - c - a)^2(c - a - b)^2 \leq 0$.

,   0,              ,

0,                                        .


**5**

9*9              81                              .                                        ,

2.

)                                        ,                                        17.

)              ,              17                              .

**7**

**:** )                                        .

)                    9 x 9    9                3 x 3.                    ,              3 x 3

.

18                              .                                        ,              18    17.

,                    18              ,

.                                                        —              $a$   $i$,

—              1    9.              3 x 3                                        ,

.              3 x 3                                        .        ,

3 x 3                                        .

d4.                                        ,                                      a1, c1      a3.
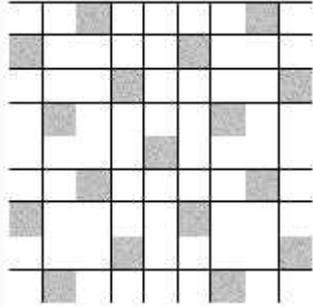                         c1,                                               ,               ,
                      .              ,                               ,
            ,                           a3.                             ,
   a1.                                        ,                              ,                c2.
   ,                                               ,                        – e1, f3    h1, i3.
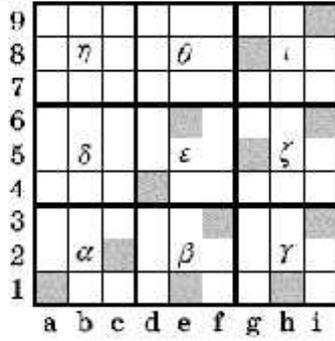         ,                                                              g5, i6, g8    i9.
                                       .
e6.                                                   ,                                      .
                         ,
.



а)                                   б)

                        ,              2        .