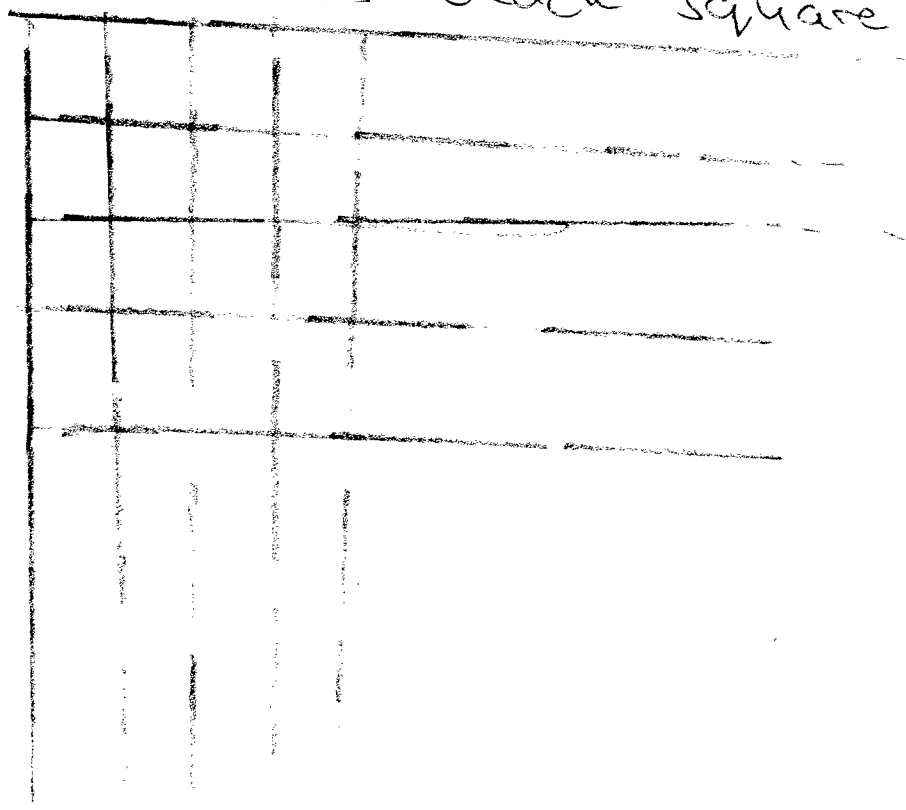


~~At the top corner we write~~
 Question ① First we colour all board in chess squares in black and white. In every white square we write 0 and in every black square we write 1.



The sum of all numbers is

$$\frac{1}{2} \cdot 100 \cdot 100 \cdot 0 + \frac{1}{2} \cdot 100 \cdot 100 \cdot 1 =$$

$$= 0 + 50 \cdot 100 = 0 + 5000 = 5000$$

Answer: 5000

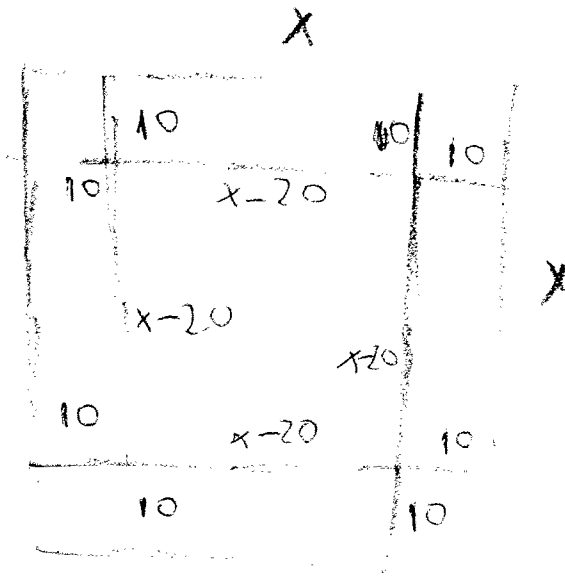
Question ② First we write number ~~is~~ 25.
After we multiply it by 3 and
new number is equal of 75.
After we multiply ~~it~~ 75 by
3 and this is equal of 225.
Now we erased one of these
two digits 2 and the number
~~which~~ which we receive is number
25 again.

Answer: 25

Question

3

Before first day the area of open water was 100%. = x^2



~~On first day~~

$$35\% \cdot x^2 = 4 \cdot 10 \cdot 10 + 4 \cdot (x-20) \cdot 10$$

$$\frac{35}{100} x^2 = 4 \cdot 10 (10 + (x-20))$$

$$\frac{35}{100} x^2 = 4 \cdot 10 (10 + x - 20)$$

$$\frac{35}{100} x^2 = 40 \cdot (x - 10)$$

$$x^2 = \frac{40 \cdot 100}{35} (x - 10)$$

$$x^2 = \frac{800}{7} (x - 10)$$

Continuation of

Question (3)

$$x^2 = \frac{850}{4}x - \frac{8000}{4}$$

$$\frac{8000}{4} = x \frac{800}{4} : x^2$$

$$\frac{8000}{4} = \frac{800}{4} : x$$

$$x = \frac{800}{4} \frac{4}{8000}$$

$$x = \frac{1}{10} \text{ km}$$

$$x = 100 \text{ m}$$

On the fifth day are freeze

$$\begin{aligned} & 4 \cdot 10 \cdot 10 + (x - 5 \cdot 20) \cdot 4 \cdot 10 = \\ & = 400 + 0 \cdot 40 = \\ & = 400 \end{aligned}$$

The S of lake

$$1s \quad 100 \cdot 100 = 10000 \text{ m}^2$$

$$\text{and } 1200 + 2000 + 4000 + 2800 + 3600 =$$

$$= 10000$$

~~On the~~ After the

fifth day

the pond is become frozen.

Answer: Fifth day

On the next day are freeze

$$\begin{aligned} & 4 \cdot 10 \cdot 10 + (x - 20 - 20) \cdot 4 \cdot 10 = \\ & = 400 + 60 \cdot 40 = 2800 \text{ m}^2 \end{aligned}$$

On the third day are freeze

$$\begin{aligned} & 4 \cdot 10 \cdot 10 + (x - 20 - 20 - 20) \cdot 4 \cdot 10 = \\ & = 400 + 40 \cdot 40 = 2000 \text{ m}^2 \end{aligned}$$

On the fourth day are freeze

$$\begin{aligned} & 4 \cdot 10 \cdot 10 + (x - 20 - 20 - 20 - 20) \cdot 4 \cdot 10 = \\ & = 400 + 20 \cdot 40 = 1200 \text{ m}^2 \end{aligned}$$

Question

④

4 don't ~~the~~ divide 12 and 11
 \Rightarrow we don't ~~make~~ cut only ~~1~~ strips
which are ~~with~~ with several
 1×4 .

$$\text{We have: } 6x + 4y = 11 \cdot 12$$

$$6x + 4y = 132$$

The options are:

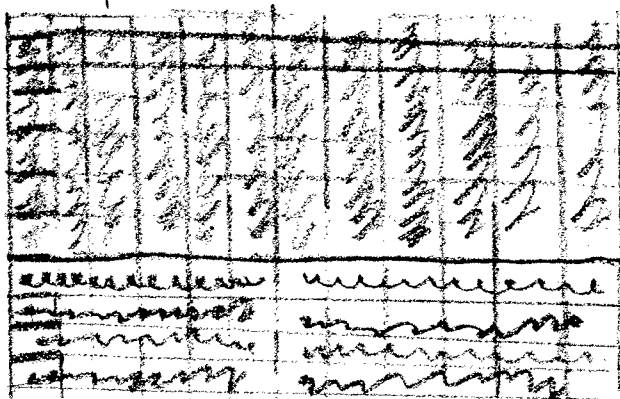
- $y = 18 \quad x = 1$
- $y = 12 \quad x = 8$
- $y = 6 \quad x = 15$
- $y = 0 \quad x = 22$

The best option is when $y = 18$ and
 $x = 1$, but in one row and in
one column we will put only
one ~~seven~~ strips 1×4 .
 \Rightarrow we never ~~erase~~ ^{cut} strip 1×6 ,

because $12 - 4 = 8 \quad 8 < 6$ and

$11 - 4 = 7 \quad 7 < 6 \Rightarrow$ it is impossible.

Next option is when $y = 12$ and $x = 8$.



Now we cut
12 strips 4×1
And 8 strips
 6×1 .
These are
 $8 + 12 = 20$ strips
Answer: 20 strips

we put in ~~the~~ ^{one half} ~~bags~~ ^{other} ~~in which~~ ^{bags} ~~have~~ from 1 to

Question 5

We put in the one half bags
other one half bags and
in these 50 bags which are
in other bags put candies
from 1 to 50 and in other
bags put candies from 51 to 100.

And the sum of all candies
is : $(1+2+3+\dots+50) \cdot 2 = 2550$

$2550 > 2018 \Rightarrow$ we have
bag in which have bag in which
have bag.