1 Problem

Yes, there is a two-digit number that is divisble by 5 other two-digit numbers.

Example for this is:

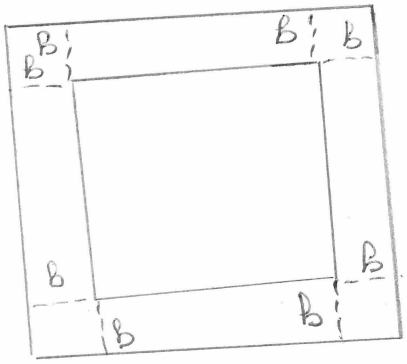
60, 10, 20, 30, 15 and 12

60 : 10,
60 : 20,
60 : 30,
60 : 15
60 : 12

so the answer is "yes".

Answer: Yes, it can.

2 Problem



Let's "a" is the length of the side of the pond. After the first day the ice is from the edge "b" meters. $b < 11$ from the condition. "100% - 19% = 81% is the area of the open water after the first day.

The first day the open water (with no ice) decreased by 19%. This is possible when the ice covered 10 meters away from the edge. The second day the ice can cover 20 metres from the edge. Then the percent decrease by $19\% \cdot 2 = 38\%$ The third day -> $38\% \cdot 2 = 76\%$. The forth day -> $76\% \cdot 2 > 100\%$

=> The entire pond will be covered after 4 days. That is possible if we have 10m, 20m, 30m and 40m for the 4 days.

Answer: 4 days

3 Problem.

$10.10 = 100$ squares 1×1 we have.
If there aren't any cuts the sum of the perimetres of the 1×1 squares is:

$P_{1\times1} = 1.4 = 4$

$P_{all} = 100.4 = 400$

But $400 = 398 + 2$ and $400 > 398$

So after the cut we must have 2 sides less. We can do that only if after the cuts we have 1 rectangle 1×2 (▭) and 98 squares 1×1 (□).

To calculate the ways we can do that we count how many ▭ are there in 10×10 square. We have

$2.(9.10) = 180$ ways. That is because on one of the side of the 10×10 squares there are 9 ways for the ~~one side of the~~ ▭. We have 2 sides, so we have $2.90 = 180$ ways

" $90 = 9.10$

Answer: 180 ways