Can you Cancel This Way?

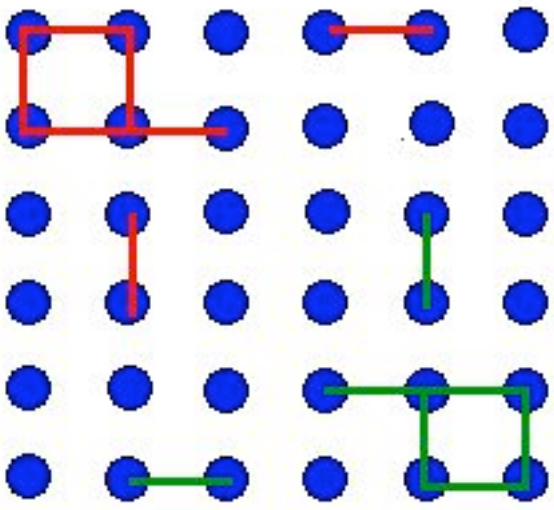
Little Johnny was asked to simplify the fraction $\frac{16}{64}$. He looked at it and thought, hey I can cancel !! So his work is what you see below.

$$\frac{1\cancel{6}}{\cancel{6}4} = \frac{1}{4}$$

Now, we know that this doesn't work all the time, because if I tried it with $\frac{15}{54}$, by canceling out the 5's, you would also get $\frac{1}{4}$. However, if I divide 15 by 54 I get 0.27777… whereas $\frac{1}{4} = 0.25$.

So, the "shortcut" only works on some fractions. Your puzzle today, is to find out which fractions it does work on. The fractions should be in the form of two digits over two digits like this $\frac{ab}{bc}$ where the unit's digit of the numerator is equal to the ten's digit of the denominator. When they are cancelled, the resulting fraction should be equal to the original fraction like this: $\frac{ab}{bc} = \frac{a}{c}$.

There are 13 fractions that work this way, can you find them? Answer, next week….

Strategy for Last week's Game

The object of winning the "Complete the Square Game" from last week, was to end up with more completed squares than your opponent. As each square is completed, you put your initial in it and it counts as "yours". A strategy for always winning is: Go second, and do a mirror image of your opponent's last move. The "mirror" is placed diagonally from top right to bottom left. Below is a sample start to a game following this strategy: