

The first part of this challenge is a game for two players; then there are some questions you can think about.

You might have played a version of this game called Pairs, or Pelmanism. To play this version of the game, shuffle the cards and then lay them face down on the table, arranged in rows. Players take turns to turn over two cards. If the player can draw a triangle with the two properties shown, then s/he takes the cards. If not, once all the players have looked at the two cards and see where they belong, the cards are turned back over. It will help you if you can remember where the cards are! The game finishes when no matter which two cards are turned over, there is no triangle with both of those properties. The winner is the person with the most cards at the end of the game. Good luck!

Contains a right angle and has just 2 equal angles	Has just 2 equal sides	Contains a right angle	All its angles are of different sizes
Has no line of symmetry	Does not contain a right angle	All its sides are of different lengths	Has just 2 equal angles
Contains a right angle and has just 2 equal sides	Does not contain a right angle and has just 2 equal sides	Contains a right angle but does not have a line of symmetry	Has only 1 line of symmetry
Has all its sides equal	Contains a right angle and has all its sides of different lengths	Has three lines of symmetry	Has all its angles equal

Now here are some questions to get you thinking.

- Suppose instead of having the cards face down we have them all face up. If it's your turn first, and you want to take a pair of cards, how many possible pairs of cards could choose? Can you list all the possible pairs?
- At the end of the game, you might be left with some cards that can't be paired up. What's the largest number you could be left with like this? What's the smallest? Give examples for each.