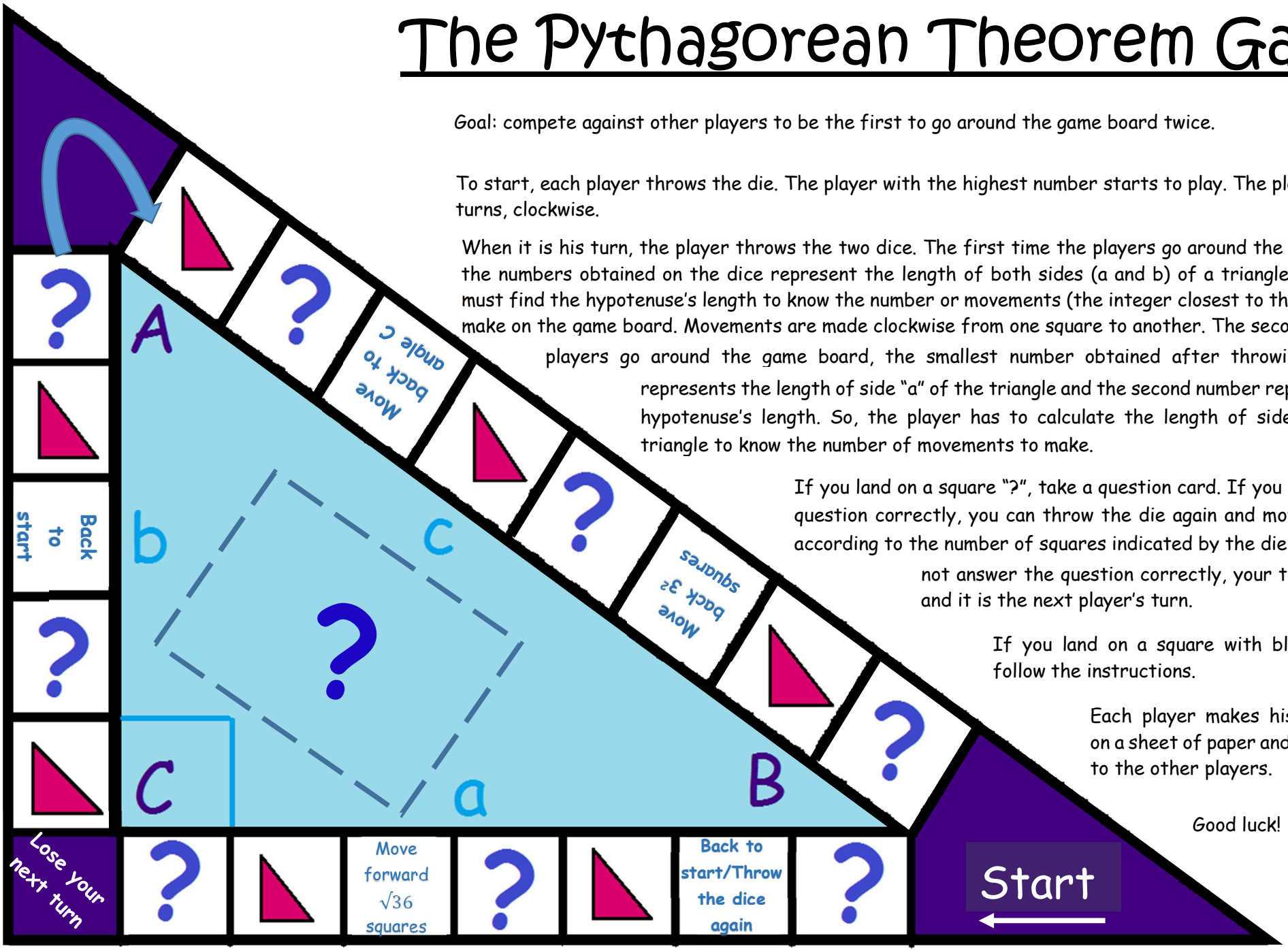
The Pythagorean Theorem Game



Goal: compete against other players to be the first to go around the game board twice.

To start, each player throws the die. The player with the highest number starts to play. The players play in turns, clockwise.

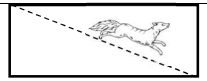
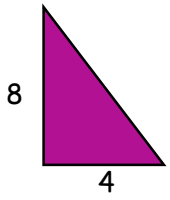
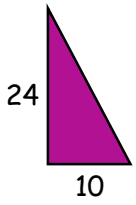
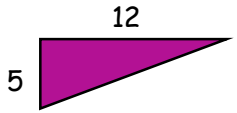
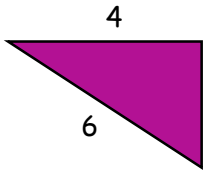
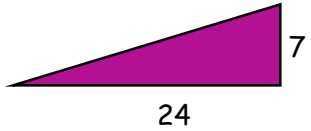
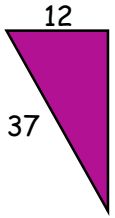
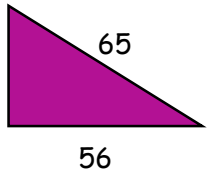
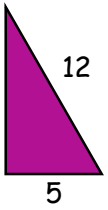
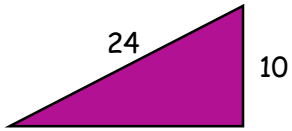
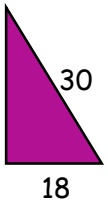
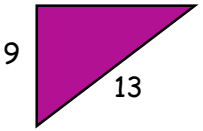
When it is his turn, the player throws the two dice. The first time the players go around the game board, the numbers obtained on the dice represent the length of both sides (a and b) of a triangle. The player must find the hypotenuse's length to know the number or movements (the integer closest to the answer) to make on the game board. Movements are made clockwise from one square to another. The second time, the players go around the game board, the smallest number obtained after throwing the dice represents the length of side "a" of the triangle and the second number represents the hypotenuse's length. So, the player has to calculate the length of side "b" of the triangle to know the number of movements to make.

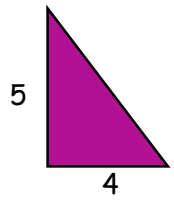
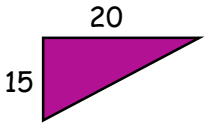
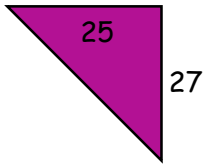
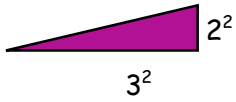
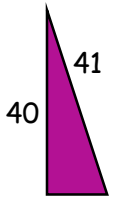
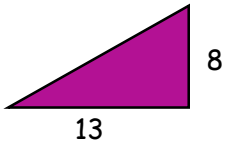
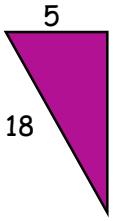
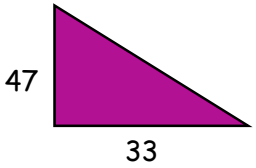
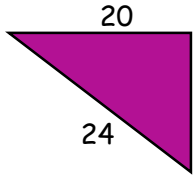
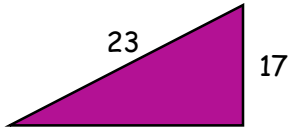
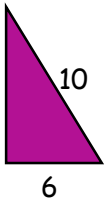
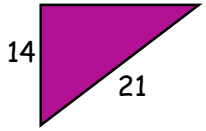
If you land on a square "?", take a question card. If you answer the question correctly, you can throw the die again and move forward according to the number of squares indicated by the die. If you do not answer the question correctly, your turn is over, and it is the next player's turn.

If you land on a square with blue writing, follow the instructions.

Each player makes his operations on a sheet of paper and shows them to the other players.

Good luck!

 A dog runs 29 metres, diagonally, from the corner of a rectangular park to the opposite corner. The park's length is 20 metres; what is its height? 1	In a park, the slide is situated west from the swings and south from the tree. If the slide is 12 metres away from the swings and the swings are 15 metres away from the tree, what is the distance between the tree and the slide? 2	Ava cuts a shape in a rectangular fabric. She cuts diagonally from one corner to the other. The diagonal measures 50 cm in length and the width of the fabric is 48 cm. What is the fabric's length? 3	Fernando is about to build a water slide that ends into his pool. The length of the slide is 17'. The end of the slide, the place where it lands into the pool, is 15' away from the base of the ladder. What is the ladder's height? 4
Find the hypotenuse's length.  5	Find the hypotenuse's length.  6	Find the hypotenuse's length.  7	Find the hypotenuse's length. 8
Find the perimeter.  9	Find the perimeter.  10	Find the perimeter.  11	Find the perimeter.  12
Find the length of the missing side.  13	Find the length of the missing side.  14	Find the length of the missing side.  15	Find the length of the missing side.  16

Find the hypotenuse's length.  17	Find the hypotenuse's length.  18	Find the hypotenuse's length.  19	Find the hypotenuse's length.  20
Find the perimeter.  21	Find the perimeter.  22	Find the perimeter.  23	Find the hypotenuse's length.  24
Find the length of the missing side.  25	Find the length of the missing side.  26	Find the length of the missing side.  27	Find the length of the missing side.  28
The mast of a flag broke during a storm. The bottom of the mast, which height is 7 m, is still planted vertically in the ground, but the top fell over and its tip is now touching the ground, 24 metres from the base of the mast. What was the mast's height before it broke? 29	A plane is flying above Paris. He must land in an airport that is 19 km away from the city. To come down, he has to cover 20 km. At what altitude was it flying above Paris? 30	The mast of a boat is attached to the deck with an 8 metre cable. The mast's height is 5 m. What is the distance between the base of the mast and the base of the cable? 31	

Answers

1. √441 or 21 m
2. √81 or 9 m
3. √196 or 14 cm
4. √64 or 8'
5. √80 or 8,9
6. √676 or 26
7. √169 or 13
8. √53 or 7,28
9. 14,47
10. 56
11. 84
12. 154
13. √119 or 10,9
14. √476 or 21,8
15. √576 or 24
16. √88 or 9,38
17. √41 or 6,4
18. √625 or 25
19. √1354 or 36,79
20. 9,85 or 3,14²
21. 90
22. 36,26
23. 40,29
24. √3298 or 57,43
25. √176 or 13,27
26. √240 or 15,49
27. √64 or 8
28. √245 or 15,65
29. 32 m
30. √39 or 6,25 km
31. √39 or 6,25 m