Pig Mania

In the 1970s a game called Pig Mania (now called Pass the Pigs) had a brief period of popularity. It involved throwing two pigs, scoring points depending on how the pigs landed. The distribution for one pig is shown below:

Sider	the pig is lying on its side	0 points
Razorback	the pig is lying on its back	5 points
Trotter	the pig is standing upright	5 points
Snouter	the pig is leaning on its snout	10 points
Leaning Jowler	the pig is resting on its snout and ear	15 points

Mr. Finch purchased a set of 'pig dice' unaffiliated with the original game. The question you need to answer is " Do these pigs follow the published distributions of outcomes?"

Here are the published outcomes for the roll of a single pig:

Position					
1 (Dot Up)	2 (Dot Down)	3 (Trotter)	4 (Razorback)	5 (Snouter)	6 (Leaning Jowler)

Position	Probability
Side(no dot)	0.349
Side (dot)	0.302
Razorback	0.224
Trotter	0.088
Snouter	0.03
Leaning Jowler	0.0061

Your task is to roll a single pig a sufficient number of times to test the 'pig dice' against the original game's probability distribution (you might want to team up with a classmate to more quickly arrive at enough data).

Rules of the Game

Now that you are finished with AP Statistics (!) here are the rules for Pig Mania if you want to play a round or two.

One turn consists of throwing two pigs and earning points based on the positions of the pigs. The player may then choose to risk those points by rolling again. If the next roll earns points, those points are added to the first roll's score. The player continues in this manner until either:

1. the player passes the pigs to the next person and records the total score from the rolls; or

2. the player rolls one of two turn-ending outcomes:

    (a) "Pig Out" which causes the player to lose all points accumulated in the turn; or

    (b) "Makin' Bacon' (also called "Oinker") in which the player loses all points earned in the game and starts over at zero.

You may score points from the position of one pig or from certain combinations of two pigs:

One Pig	
Position	Points
Side (either side)	0
Razorback (the pig is on its back	5
Trotter (the pig is standing upright)	5
Snouter (the pig is leaning on its snout)	10
Leaning Jowler (the pig is resting on its snout and ear	15

Two Pigs	
Position	Points
Sider (both pigs on same side – spot up or spot down)	1
Double Razorback (both pigs on their backs)	20
Double Trotter (both pigs standing upright)	20
Double Snouter (both pigs leaning on their snouts	40
Double Leaning Jowler (both pigs resting on snout and one ear)	60
Mixed Combo (any other combo not mentioned above	Sum of single-pig points
Pig Out (each pig on a side, one spot up and one spot down)	0 and lose turn
Makin' Bacon (aka Oinker – Both pigs touching)	Lose all points and restart at 0
Piggyback (one pig resting on top of the other)	Game over for player

The winner of the game is the first player to reach (or exceed 100 points).