

7.1: Introduction to Random Variables - “Greed”

The point of this game is to gain as many points as possible. Points are earned by rolling two dice—the sum of the dice equals the points earned for the roll. To earn points, a player must be actively “in the game”. Once a player opts “out of the game,” they maintain their current point total, but can not earn any more points until the next round. Players who are “in the game” continue earning points until they opt out or until the “greed point” is rolled, whichever occurs first. The “greed point” determines the end of a round. Any player “in the game” when the greed point is rolled lose all points earned for that round.

The Game of Greed

- The teacher should establish a “greed point” that will end the round. For example, if a “2” or “9” is rolled, the round ends and all players in the game lose their points for that round.
- Everybody stands up. The teacher rolls two dice. The result is the starting score for all students.
- If a student is satisfied with the score, they can opt out and keep those points for their total.
- If a student wishes to continue earning points, they can stay in the game for another roll.
- Continue rolling. After each roll, students may opt out and keep their points or stay in the game to earn more points for the round.
- The round ends when all students opt out or when the greed point is rolled.

Use the following table to track your scores. Add additional lines if necessary. Add all 4 round totals to determine your game score.

Roll	Score	Roll	Score	Roll	Score	Roll	Score
1		1		1		1	
2		2		2		2	
3		3		3		3	
4		4		4		4	
5		5		5		5	
6		6		6		6	
7		7		7		7	
8		8		8		8	
9		9		9		9	
10		10		10		10	
11		11		11		11	
12		12		12		12	
13		13		13		13	
14		14		14		14	
15		15		15		15	
Total		Total		Total		Total	
						Game Total	

We learned in Chapter 6 that rolling dice is a random phenomenon. While we can’t predict *exactly* what will come up on a particular roll, we can be reasonably sure what the distribution of sums will look like for a long series of rolls.

Your task is to use what you know about rolling dice to create a strategy for the game of greed.

