

GAME

Player A gets a point if the sum of the dice is even

Player B gets a point if the sum of the dice is odd

First Player to 10 pts wins

Is the game fair?

Why or Why not?

ODD
|

EVEN
|||

Experimental Probability
says even is more
likely but just a little.

X impossible with two dice

2

3

4

5

6

7

8

9

10

11

12

$\frac{6 \text{ even}}{11 \text{ total}}$ } NOT the probability
because it doesn't
include ALL ways
to roll each number

Rolling Two Dice

2: 1 and 1

3: 2 and 1 or 1 and 2

4: 2 and 2 2 and 1 1 and 3

5: 4 and 1 1 and 4 2 and 3 3 and 2

6: 3 and 3 5 and 1 1 and 5 4 and 2 2 and 4

7: 6 and 1 1 and 6 2 and 5 5 and 2 3 and 4 4 and 3

8: 4 and 4 2 and 6 6 and 2 3 and 5 5 and 3

9: 3 and 6 6 and 3 4 and 5 5 and 4

10: 5 and 5 4 and 6 6 and 4

11: 5 and 6 6 and 5

12: 6 and 6

PROBABILITY OF ROLLING

2: $1/36$

3: $2/36 = 1/18$

4: $3/36 = 1/12$

5: $4/36 = 1/9$

6: $5/36$

7: $6/36 = 1/6$

8: $5/36$

9: $4/36 = 1/9$

10: $3/36 = 1/12$

11: $2/36 = 1/18$

12: $1/36$