$\qquad$

Date: $\qquad$

1. Play the dice game and record the scores in the table. Record the scores of a second game. Which sum wins most of the time? $\qquad$ Does this game seem fair? $\qquad$

|  | Game 1 | Game 2 |
| :---: | :---: | :---: |
| Sums | Scores | Scores |
| 3 |  |  |
| 7 |  |  |
| 11 |  |  |
| 12 |  |  |

2. Write the sums from adding the two dice in the table here.

Die 1
Why does the special sum of 7 win most of the time? $\qquad$
Which special sums will most likely lose much of the time?
$\qquad$
Is this game fair? $\qquad$
How could you make it fair? $\qquad$

|  | 1 | 2 | 3 | 4 | 5 | 6 |
| :--- | :--- | :--- | :--- | :--- | :--- | :--- |
| 1 | 2 | 3 |  |  |  |  |
| 2 |  |  |  |  |  |  |
| $\sim$ | $\stackrel{\sim}{\circ}$ |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |
| 5 |  |  |  |  |  |  |
| 6 |  |  |  |  |  |  |

3. Using the data from the table above, fill in the number of times a sum occurs. Then calculate the probabilities in fractions and percents. Simplify the fractions. Use a calculator for the percents.

| Sums | Number | Probability |  |
| :---: | :---: | :---: | :---: |
|  | Times | Fraction | Percent |
| 2 | । | $\frac{1}{36}$ | $2.8 \%$ |
| 3 |  |  |  |
| 4 |  |  |  |
| 5 |  |  |  |
| 6 |  |  |  |
| 7 |  |  |  |
| 8 |  |  |  |
| 9 |  |  |  |
| 10 |  |  |  |
| 11 |  |  |  |
| 12 |  |  |  |
| Totals |  | $\frac{36}{36}=$ |  |

