**Shape, circle

Description automatically generatedShape, circle

Description automatically generatedShape, circle

Description automatically generated + Does X + X = 2X? 2 \***

1. Write out all 36 possible outcomes for two die rolls.

**Let X = value of a single die roll. Let X + X = sum of two die rolls.**

2. Create a probability distribution for the sum of X + X.

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Value | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| Probability |  |  |  |  |  |  |  |  |  |  |  |

3. Use the Discrete Random Variables applet at [www.stapplet.com](http://www.stapplet.com/) or your calculator.

Mean (X + X) = Interpret:

SD (X + X) = Interpret:

**Let X = value of a single die roll. Let 2X = doubling a single die roll.**

4. Create a probability distribution for 2X.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Value |  |  |  |  |  |  |
| Probability |  |  |  |  |  |  |

Mean (2X) = Interpret:

SD (2X) = Interpret:

5. Does X + X = 2X? Explain.

6. If you were told you would win the number of dollars of your score, would you rather get the sum of rolling two dice, or doubling a single die roll? Explain.