Yahtzee probability

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CHOOSEMATHS

Your challenge:

What is the probability of getting five 6’s?

How to approach the challenge:

- This is a large and complex problem – mathematicians will start with a simple problem and work up to a complex one.

  How can we simplify this problem?

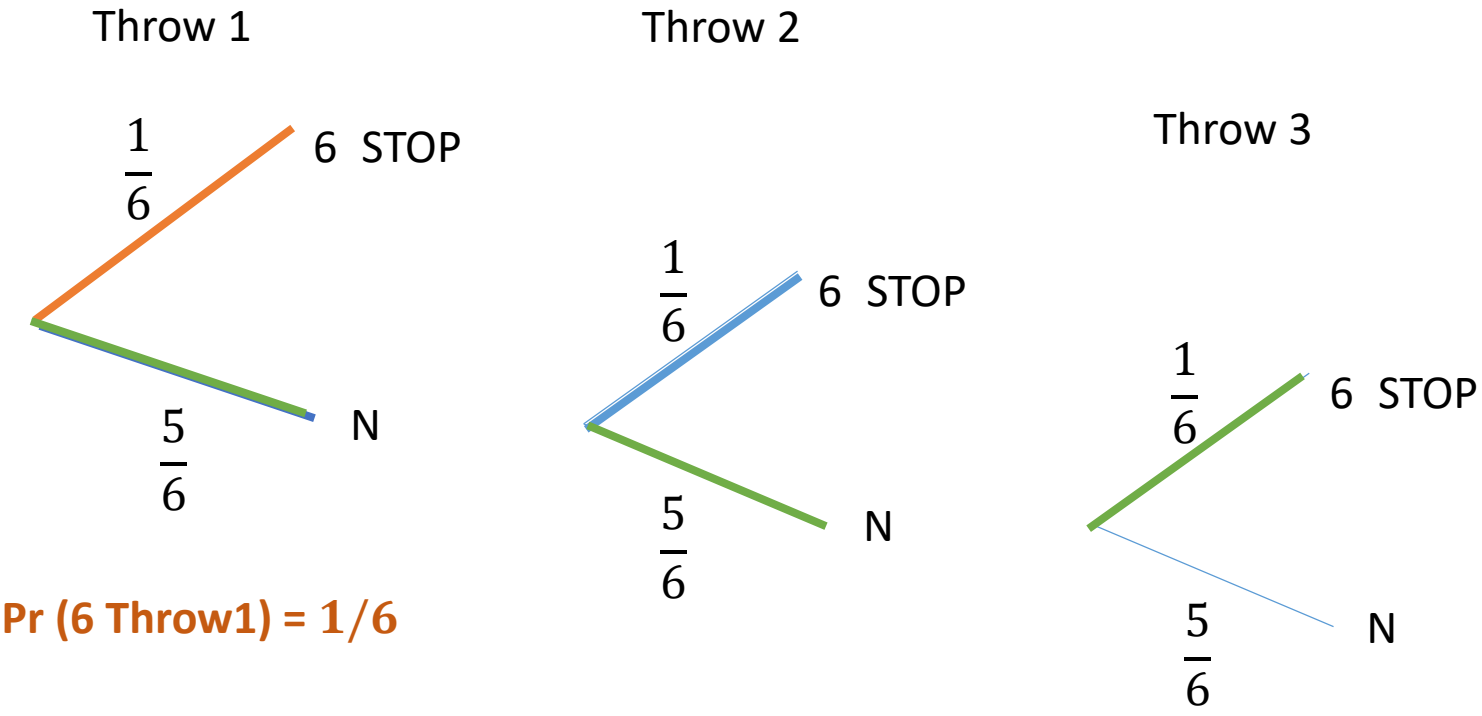
- You will need a way to keep track of your thinking and attempts at solving.

  How are you going to record your ideas/workings?

- It is important that you can describe to others what you have done and be able to justify your solution.

  Can you explain what you have done?

An approach to the 1 die problem:



Pr (6 Throw1) = $1/6$

Pr (6 Throw2) = $\frac{5}{6} . \frac{1}{6} = \frac{5}{36}$

Pr (6 Throw3) = $\frac{5}{6} . \frac{5}{6} . \frac{1}{6} = \frac{25}{216}$

Pr(6 in three rolls) = $\frac{1}{6} + \frac{5}{36} + \frac{25}{216} = \frac{91}{216}$

What next?

Can you use this approach to extend the problem to 2 dice, 3 dice etc?

Good Luck!!

Solutions, maths and how to play:

- https://www.wikihow.com/Play-Yahtzee
- https://www.thoughtco.com/probability-of-rolling-a-yahtzee-3126593
- http://datagenetics.com/blog/january42012/index.html
- http://mathworld.wolfram.com/Yahtzee.html
- http://www.yahtzee.org.uk/probability.html