

Most people don't realize that Mr. Brust was an ice skater in his youth. He has a special move called a "triple klutz" that he landed about 50% of the time. There were two outcomes: Landed or Failed it. During a routine, he would attempt 3 of these "triple klutzes"

1. Complete the tree diagram that shows all the possible outcomes.
2. What is the theoretical probability that Mr. Brust lands all three of his "triple klutzes" during his next routine.
3. Find the theoretical probability that he lands NO "triple klutzes."

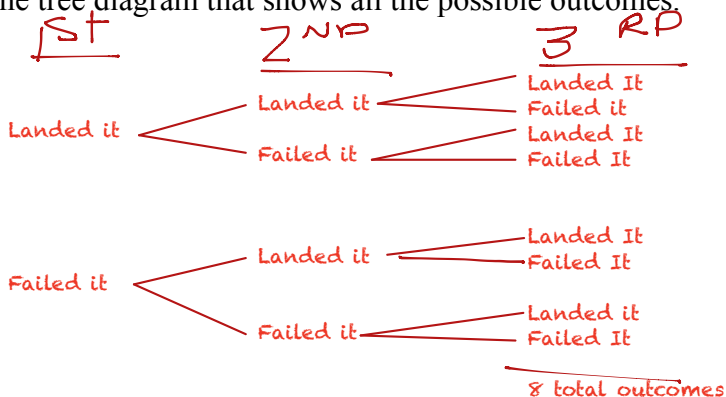
Sully is a big fan of figure skating and wants to go watch Mr. Brust's routine. However, he only wants to go if Mr Brust can land at least 1 triple klutz. HE decides to simulate the 3 jumps using a coin. He lets Heads represents he landed it, and Tails represent he failed it.

Simulation #1: TTH	Simulation #2: THT	Simulation #3: HTH	
Simulation #4: THH	Simulation #5: THH	Simulation #6: THH	
Simulation #7: TTT	Simulation #8: HHH	Simulation #9: HTH	Simulation #10: HHH

4. According to simulation #8, how many times would Brust land the triple klutz?
5. Based on your simulations, what is the experimental probability that Brust fails all of Triple Klutzes?
6. Based on your simulations, what is the experimental probability that Brust at least 1 Triple Klutz?
7. Based on your answer to number 6, how many routines out of 40 would Mr. Brust land at least 1 Triple Lutz?

Most people don't realize that Mr. Brust was an ice skater in his youth. He has a special move called a "triple klutz" that he landed about 50% of the time. There were two outcomes: Landed or Failed it. During a routine, he would attempt 3 of these "triple klutzes"

1. Complete the tree diagram that shows all the possible outcomes.



Outcomes:  
 Landed, Landed, Landed  
 Landed, Landed, Failed  
 Landed, Failed, Landed  
 Landed, Failed, Failed  
 Failed, Landed, Landed  
 Failed, Landed, Failed  
 Failed, Failed, Landed  
 Failed, Failed, Failed

2. What is the theoretical probability that Mr. Brust lands all three of his "triple klutzes" during his next routine.

$$P(\text{all 3}) = \frac{1}{8}$$

3. Find the theoretical probability that he lands NO "triple klutzes."

$$P(3 \text{ fails}) = \frac{1}{8}$$

Sully is a big fan of figure skating and wants to go watch Mr. Brust's routine. However, he only wants to go if Mr Brust can land at least 1 triple klutz. HE decides to simulate the 3 jumps using a coin. He lets Heads represents he landed it, and Tails represent he failed it.

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4. According to simulation #8, how many times would Brust land the triple klutz?

TTH H  
 3 times

5. Based on your simulations, what is the experimental probability that Brust fails all of Triple Klutzes?

$$P(3 \text{ fails}) = \frac{1}{10}$$

6. Based on your simulations, what is the experimental probability that Brust at least 1 Triple Klutz?

$$P(\text{at least 1}) = \frac{9}{10} = .90 = 90\%$$

7. Based on your answer to number 6, how many routines out of 40 would Mr. Brust land at least 1 Triple Lutz?

90% of 40

$$\frac{90}{100} = \frac{15}{DF}$$

$$\frac{90}{100} = \frac{x}{40}$$

100x = 3600  
 x = 36 times