

Leonard Euler rolls three fair standard six-sided dice. The results are D_1 , D_2 , and D_3 respectively. Find the probability of each event below:

$D_1 \cdot D_2$ is a perfect square

$D_1 > D_2 > D_3$

$D_1 + D_2$ is prime

$D_1 + D_2 + D_3$ is prime

$|D_1 + D_2 - D_3|$ is a perfect square

$|D_1 + D_2 - D_3|$ is prime

$D_1 \cdot D_2 \cdot D_3$ is prime

$D_1 = D_2 = D_3$

$|D_1 + D_2 - D_3|$ is composite

$$D_1 = D_2$$

$$D_1 \cdot D_2 \text{ is odd}$$

$$D_1 > |D_1 - D_2|$$

$$|D_1 - D_2| \text{ is a perfect square}$$

$$|D_1 + D_2 - D_3| \text{ is odd}$$

$$D_1 + D_2 + D_3 \text{ is odd}$$

$$D_1 = |D_1 - D_2|$$

$|D_1 - D_2|$ is prime

D_1 is prime

$D_1 + D_2 + D_3$ is a perfect square

$D_1 + D_2 + D_3$ is composite

$D_1 \cdot D_2$ is composite

$$D_1 > D_2$$

$$(D_1 + D_2) | D_3$$

$$D_1 \cdot D_2 \cdot D_3 \text{ is odd}$$

$$D_1 + D_2 \text{ is composite}$$

$$D_1 \cdot D_2 \cdot D_3 \text{ is a perfect square}$$

$D_1 + D_2$ is a perfect square

$D_1 \mid D_2$

D_1 and D_2 are coprime

$D_1 \cdot D_2$ is prime

$(D_1 - D_2) \mid D_1$

$$(D_1 \cdot D_2) | D_3$$

$$|D_1 - D_2| \text{ is composite}$$

$$D_1 \text{ is odd}$$

$$D_1 \text{ is composite}$$

$$|D_1 - D_2| \text{ is odd}$$

$$D_1 \cdot D_2 \cdot D_3 \text{ is composite}$$

$$D_1 + D_2 \text{ is odd}$$

$$D_1 \text{ is a perfect square}$$