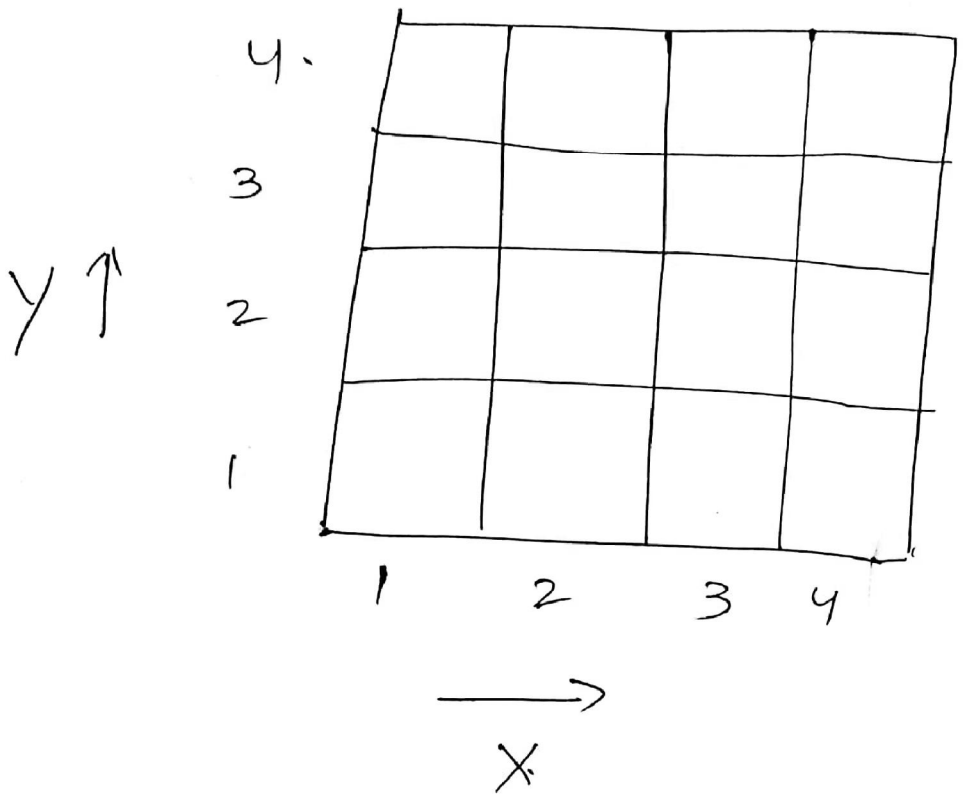
Question



You have two 4-faced dice.

B: It is an event that $\overset{\min}{\wedge}(X, Y) = 2$.

or

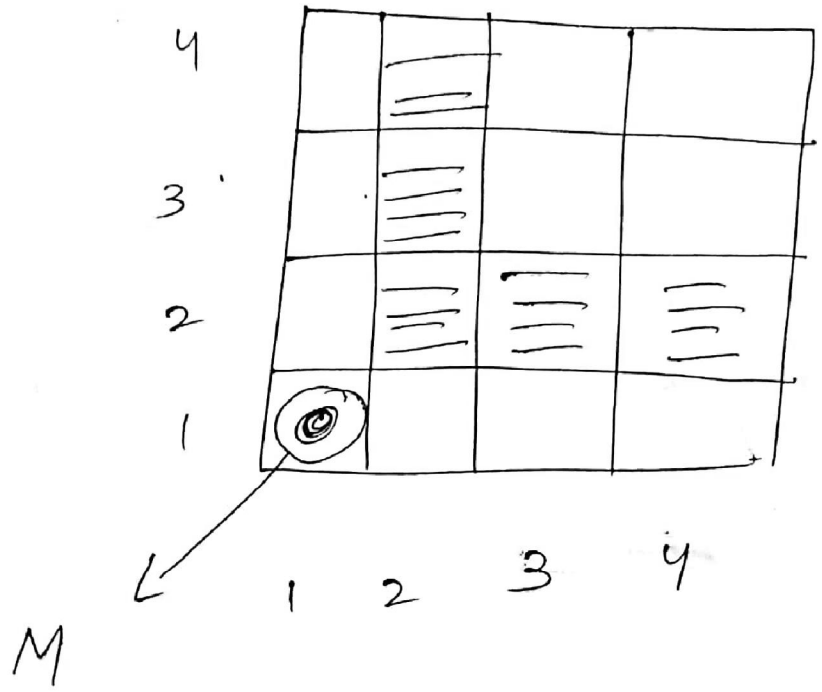
$B := \min(X, Y) = 2$

$M : \max(X, Y)$

i) What is $P(M=1 \mid B)$

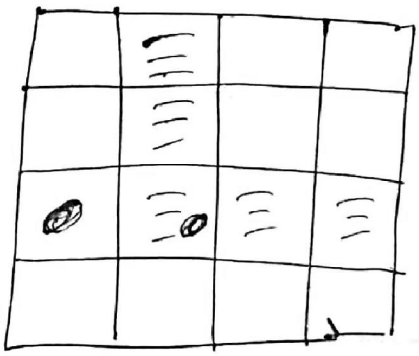
ii) What is $P(M=2 \mid B)$

i)



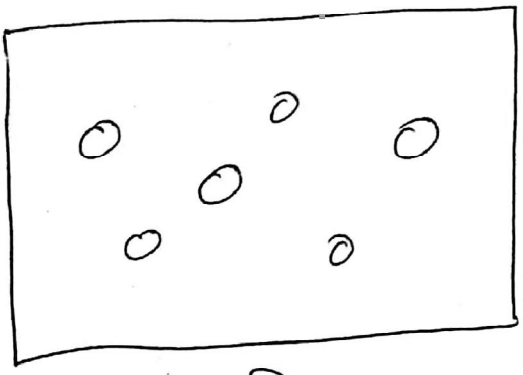
$$P(M=1 \mid B) = 0.$$

ii) $P(M=2 \mid B)$



$$\frac{P(M=2 \cap B)}{P(B)} = \frac{1/16}{5/16}$$

$$= 1/5.$$



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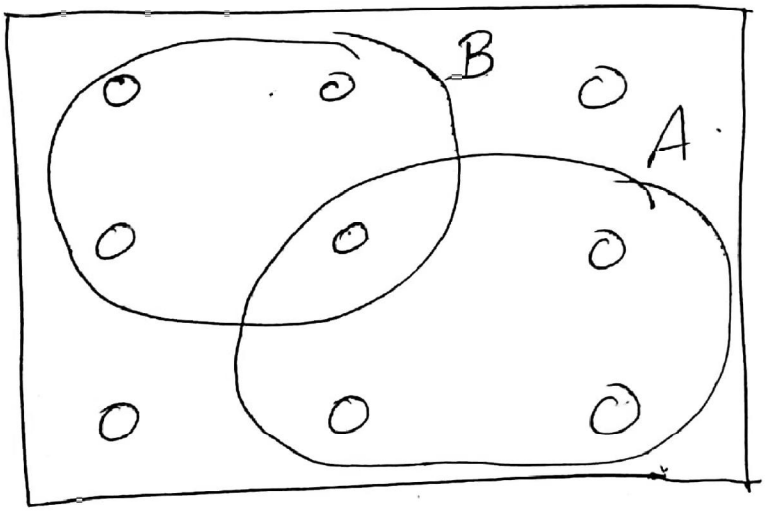

Total mass of coins = 1

Question: $P(A|B)$

Ans: 1/4.

$P(A) = 4/9$ (4 coins)

$P(B) = 4/9$.

$P(A \cap B) = 1/9$.

$$P(A|B) = \frac{P(A \cap B)}{P(B)}$$

$$= \frac{\frac{1}{9}}{\frac{4}{9}} = 1/4.$$