



MathsNET

A joined up approach to
teaching and learning
mathematics

Independent random variables

- What does it mean when we say that two events are independent?
- What does it mean when we say that two random variables are independent?
- If the random variables X and Y are NOT independent is the following equality guaranteed to never hold $P(X = 1 \wedge Y = 2) = P(X = 1)P(Y = 2)$? Explain your reasoning.
- Is the probability of getting a 3 when I roll a dice independent of the probability of getting a 2 on the same roll? Explain your reasoning.



- Given the following equation $P(X = x|Y = a \wedge Z = b) = P(X = x|Y = a)$ what can you conclude about the independence of the random variables X , Y and Z .