

EoS - E-tutorial 03 - WiSe 2022/2023

StatRef.E.1.4.00016 (60 Punkte)

Sie haben die folgende Antwort gegeben:

A company produces jelly babies in four different colours (red, yellow, green, white). The daily production of 100000 jelly babies is mastered by three production plants. Plant 1 is the oldest and produces 16000 jelly babies per day. The two other plants are not as old as plant 1, their daily production is therefore higher. Plant 2 reaches a daily production of 32000 and plant 3 of 52000 jelly babies. Whereas on the newer plants, production is equally split among the four colours, the oldest plant is only able to produce two colours, red and green, in an equal proportion.

Hint: Please round your results - if necessary and if not asked otherwise - to **four** decimal places.

- a) (20 Points) You draw a jelly baby randomly from the daily production. Please calculate the probability that this jelly baby is red. 0.29 ✓
- b) (20 Points) Assume that the randomly drawn jelly baby is a white one. Please calculate the probability that this jelly baby was not produced on plant 3. 0.381 ✓
- c) (20 Points) Because of a defect in the control system, sometimes the colours red and yellow mix up. This error concerns each plant to the same extent. In 2% of cases, an orange jelly baby is produced instead of a red or a yellow one. How many orange jelly babies would you expect to be produced during one daily production run? 1000 ✓

Die bestmögliche Lösung lautet:

A company produces jelly babies in four different colours (red, yellow, green, white). The daily production of 100000 jelly babies is mastered by three production plants. Plant 1 is the oldest and produces 16000 jelly babies per day. The two other plants are not as old as plant 1, their daily production is therefore higher. Plant 2 reaches a daily production of 32000 and plant 3 of 52000 jelly babies. Whereas on the newer plants, production is equally split among the four colours, the oldest plant is only able to produce two colours, red and green, in an equal proportion.

Hint: Please round your results - if necessary and if not asked otherwise - to **four** decimal places.

- a) (20 Points) You draw a jelly baby randomly from the daily production. Please calculate the probability that this jelly baby is red. 0.29
- b) (20 Points) Assume that the randomly drawn jelly baby is a white one. Please calculate the probability that this jelly baby was not produced on plant 3. 0.380952380952381
- c) (20 Points) Because of a defect in the control system, sometimes the colours red and yellow mix up. This error concerns each plant to the same extent. In 2% of cases, an orange jelly baby is produced instead of a red or a yellow one. How many orange jelly babies would you expect to be produced during one daily production run? 1000

Sie haben 60 von 60 möglichen Punkten erreicht.