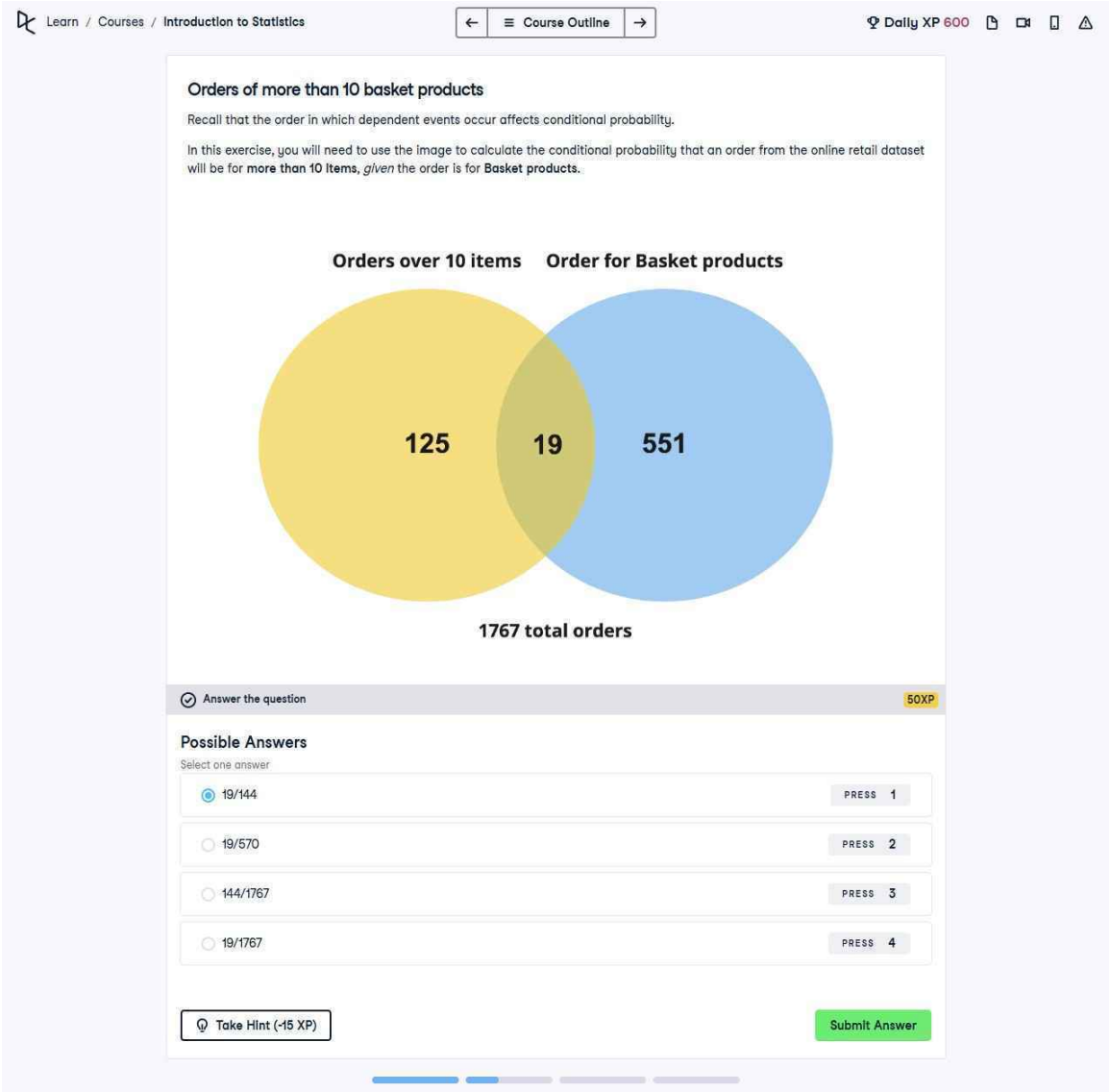
Orders of More Than 10 Basket Products

Recall that the order in which dependent events occur affects conditional probability.

In this exercise, you will need to use the image to calculate the conditional probability that an order from the online retail dataset will be for more than 10 items, given the order is for Basket products.



Answer

Answer: 19/570

Explanation: To calculate the conditional probability of an order being for more than 10 items given it is for Basket products, we use the formula for

conditional probability:

$P(A|B) = P(A \cap B) / P(B)$

Here:
- A = Order for more than 10 items.
- B = Order for Basket products.
- $P(A \cap B) = 19$ (orders for both more than 10 items and Basket products).
- $P(B) = 570$ (total orders for Basket products, which is 551 + 19).

Thus, $P(A|B) = 19 / 570$.

Explanation of the Answer

To solve this problem, we applied the conditional probability formula $P(A|B) = P(A \cap B) / P(B)$:
1. From the Venn diagram, the number of orders for both more than 10 items and Basket products is 19.
2. The total number of orders for Basket products is the sum of orders only for Basket products (551) and orders for both Basket products and more than 10 items (19), resulting in 570.
3. Dividing the overlap (19) by the total for Basket products (570) gives the conditional probability: 19/570.