

Warm-Up for Day 8

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1 Understanding the Two Rules of Probability

Carlos plays college soccer. He makes a goal 65% of the time he shoots. Carlos is going to attempt two goals in a row in the next game. A = the event Carlos is successful on his first attempt. $P(A) = 0.65$. B = the event Carlos is successful on his second attempt. $P(B) = 0.65$. Carlos tends to shoot in streaks. The probability that he makes the second goal *given* that he made the first goal is 0.90.

1. What is the probability that he makes both goals?
2. What is the probability that Carlos makes either the first goal or the second goal?
3. Are A and B independent?
4. Are A and B mutually exclusive?