I figured it out by discovering all three of the 90--2, 3, and 5 prime factors. Now, the residual of any integer after it has been divided by its factors will always be 0. So there would be no leftover when 90 was divided by any of its elements. This is significant because it ensures that if you continue around the circle, you will eventually end up back at your starting point. Therefore, any option that is either a factor or a multiple of 2, 3, or 5 will not be valid. Therefore, the following numbers do not work: 3, 4, 5, and 6.

Step 1: Answer

7

Step 2: Explanation

I figured it out by discovering all three of the 90--2, 3, and 5 prime factors. Now, the residual of any integer after it has been divided by its factors will always be 0. So there would be no leftover when 90 was divided by any of its elements. This is significant because it ensures that if you continue around the circle, you will eventually end up back at your starting point. Therefore, any option that is either a factor or a multiple of 2, 3, or 5 will not be valid. Therefore, the following numbers do not work: 3, 4, 5, and 6.

The only answer that is not one of its variables or multiples thereof is 7. You will ultimately reach each dot on the circle if n = 7. Another way to put this is that you will never return to where you first started. Naturally, you might need to circle back a few times, but ultimately you will reach them all. This tough question reminds me more of the old SAT math questions that assessed more subtle reasoning and intuition.