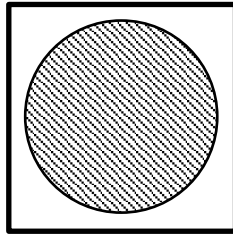


Answer on Question #71720 – Math – Statistics and Probability

Question

A dart hits the square dartboard shown below at a random point. Find the probability that the dart lands in the shaded circular region. Each side of dartboard is 12 in, and the radius of the shaded region is 5 in.



Solution

The probability of landing in the shaded circular region is given by

$$P = S1/S2,$$

where $S1$ is the area of the shaded region, $S2$ is the area of the square dartboard.
Then

$$P = \pi * 5^2 / 12^2 = 25 * \pi / 144 = 0.17361 \times \pi = 0.17361 \times 3.14159 = 0.5454.$$

Answer:

The probability that the dart lands in the shaded circular region is 0.5454.