



Geometric Probability

About These Problems

Geometric probability deals with probability given with shapes and figures. Using area and volume we should deduce the probability of certain events occurring.

Basic Formulas.

Assuming independence, which means both events are unrelated.

$P(A)$ = Probability event A occurs

$P(B)$ = Probability event B occurs

$P(A \text{ and } B \text{ occur}) = P(A) * P(B)$

$P(A \text{ or } B \text{ occur}) = P(A) + P(B)$

Question. If a carnival game has two rings placed within one another and the radius of one ring is ten times the radius of the other, what is the probability of getting your toy in the smaller ring?

- A. $1/10$
- B. $1/3.14$
- C. $1/31.4$
- D. $1/100$
- E. $1/314$

Answer. D: We have to find the area of the smaller circle in relation to the larger one. Since we know that area is related to r^2 we know that we just need to square the ratios of the radii as pi cancels out in the ratio.