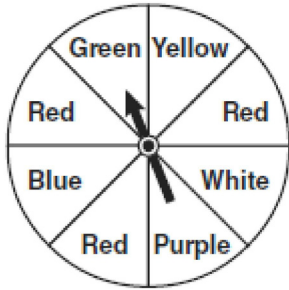


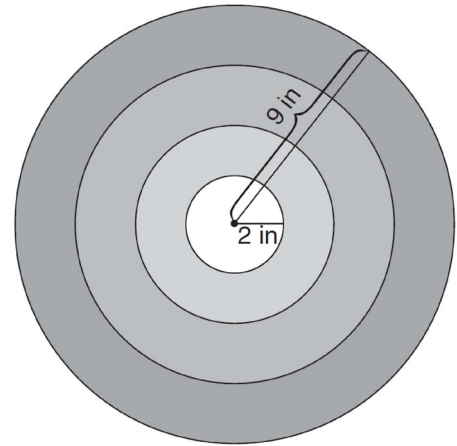
A.S.20: Geometric Probability: Calculate the probability of an event and its complement

- 1 The spinner below is divided into eight equal regions and is spun once. What is the probability of *not* getting red?



- 1) $\frac{3}{5}$
- 2) $\frac{3}{8}$
- 3) $\frac{5}{8}$
- 4) $\frac{7}{8}$

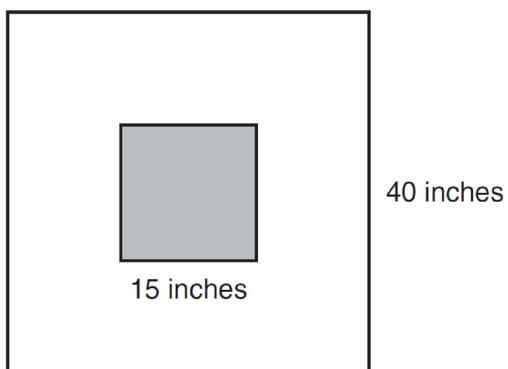
- 2 The bull's-eye of a dartboard has a radius of 2 inches and the entire board has a radius of 9 inches, as shown in the diagram below.



If a dart is thrown and hits the board, what is the probability that the dart will land in the bull's-eye?

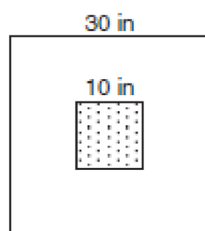
- 1) $\frac{2}{9}$
- 2) $\frac{7}{9}$
- 3) $\frac{4}{81}$
- 4) $\frac{49}{81}$

- 3 The square dart board shown below has a side that measures 40 inches. The shaded portion in the center is a square whose side is 15 inches. A dart thrown at the board is equally likely to land on any point on the dartboard.

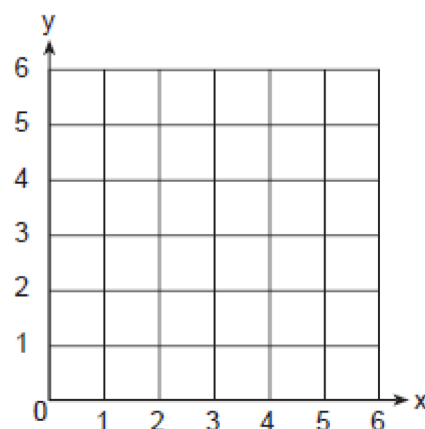


Find the probability that a dart hitting the board will *not* land in the shaded area.

- 4 The accompanying diagram shows a square dartboard. The side of the dartboard measures 30 inches. The square shaded region at the center has a side that measures 10 inches. If darts thrown at the board are equally likely to land anywhere on the board, what is the theoretical probability that a dart does not land in the shaded region?



- 5 A square dartboard is represented in the accompanying diagram. The entire dartboard is the first quadrant from $x = 0$ to 6 and from $y = 0$ to 6. A triangular region on the dartboard is enclosed by the graphs of the equations $y = 2$, $x = 6$, and $y = x$. Find the probability that a dart that randomly hits the dartboard will land in the triangular region formed by the three lines.



A.S.20: Geometric Probability: Calculate the probability of an event and its complement
Answer Section

1 ANS: 3 REF: 080907ia

2 ANS: 3 REF: 061218ia

3 ANS:

$$\frac{1375}{1600} \cdot \frac{40^2 - 15^2}{40^2} = \frac{1375}{1600}$$

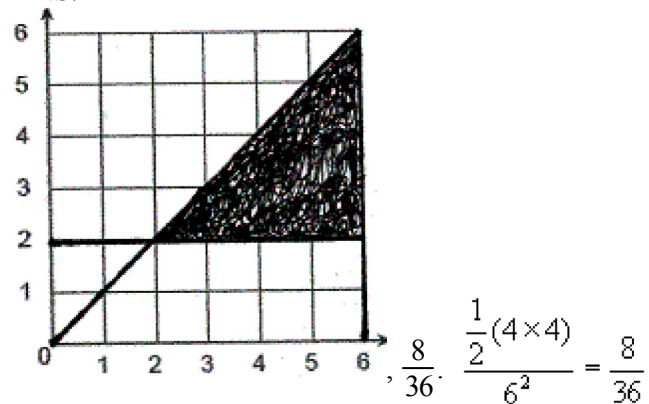
REF: 011132ia

4 ANS:

$$\frac{800}{900} \cdot \frac{30^2 - 10^2}{30^2} = \frac{800}{900}$$

REF: 010634a

5 ANS:



REF: 010231a