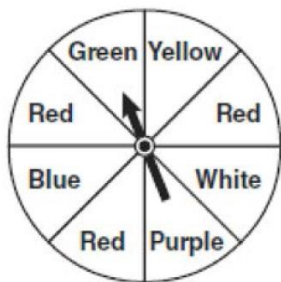


## 7.SP.C.5 Solve Word Problems Involving Geometric Probability

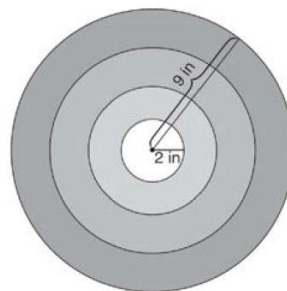
7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.

- 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)  $\frac{7}{8}$

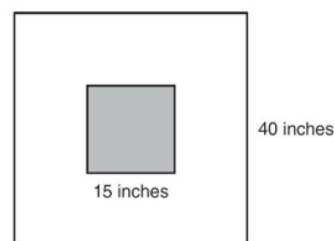
- 2 The bull's-eye of a dartboard has a radius of 2 inches and the entire board has a radius of 9 inches, as shown in the diagram below.



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.

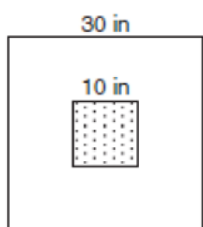


Find the probability that a dart hitting the board will *not* land in the shaded area.

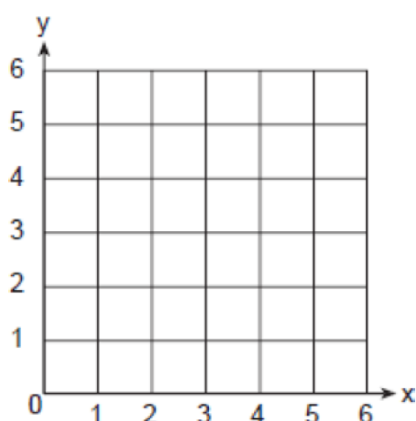
## 7.SP.C.5 Solve Word Problems Involving Geometric Probability

7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.

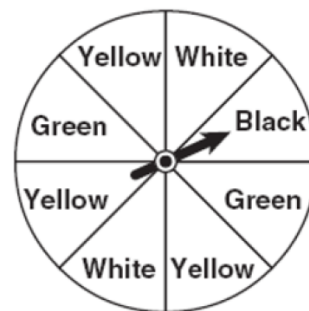
- 4 The accompanying diagram shows a square dartboard. The side of the dartboard measures 30 inches. The square shaded region at the center has a side that measures 10 inches. If darts thrown at the board are equally likely to land anywhere on the board, what is the theoretical probability that a dart 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.

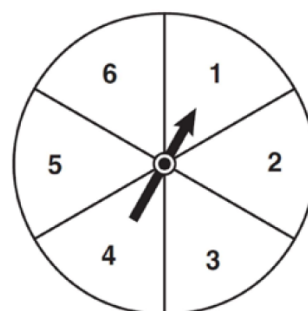


- 6 A spinner is divided into eight equal regions as shown in the diagram below.



Which event is most likely to occur in one spin?

- 1) The arrow will land in a green or white area.
  - 2) The arrow will land in a green or black area.
  - 3) The arrow will land in a yellow or black area.
  - 4) The arrow will land in a yellow or green area.
- 7 The spinner shown in the diagram below is divided into six equal sections.



Which outcome is *least* likely to occur on a single spin?

- 1) an odd number
- 2) a prime number
- 3) a perfect square
- 4) a number divisible by 2

## 7.SP.C.5 Solve Word Problems Involving Geometric Probability

### Answer Key

7.SP.C.5 Understand that the probability of a chance event is a number between 0 and 1 that expresses the likelihood of the event occurring.

1 ANS: 3

2 ANS: 3

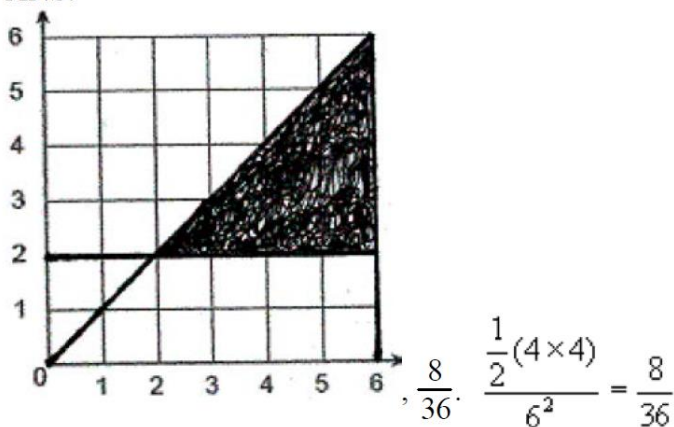
3 ANS:

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

4 ANS:

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

5 ANS:



6 ANS: 4

$$P(G \text{ or } W) = \frac{4}{8}, P(G \text{ or } B) = \frac{3}{8}, P(Y \text{ or } B) = \frac{4}{8}, P(Y \text{ or } G) = \frac{5}{8}$$

7 ANS: 3

$$P(\text{odd}) = \frac{3}{6}, P(\text{prime}) = \frac{3}{6}, P(\text{perfect square}) = \frac{2}{6}, P(\text{even}) = \frac{3}{6}$$