



Theoretical and Experimental Probability

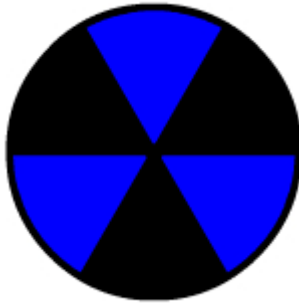
Independent Practice – Answer Key

Use the information for questions 1 – 3 below.

1 Create a spinner using the following clues:

- The spinner contains only 2 colors
- The color blue should occur equally as often as black

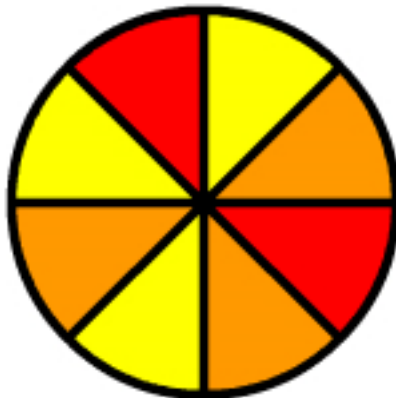
Possible answer:



2 Create a spinner using the following clues:

- The spinner contains 3 colors
- The color red is least likely to occur
- The colors yellow and orange are equally likely to occur.

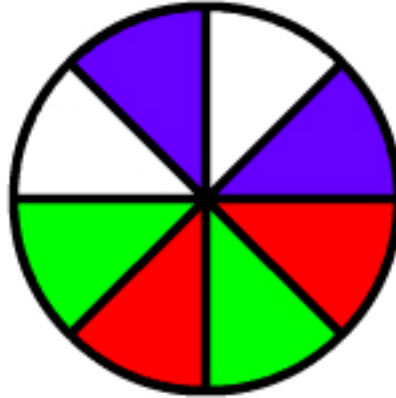
Possible answer:



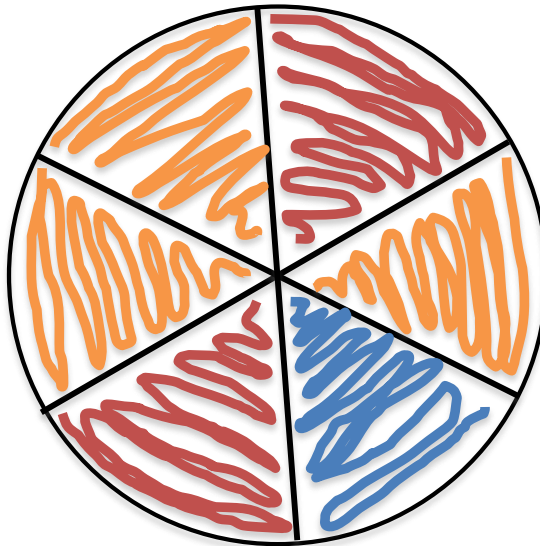
3 Create a spinner using the following clues:

- The spinner contains 4 colors: purple, white, green, red.
- The four colors on the spinner are each equally likely to occur.

Possible Answer:



Use the following diagram for questions 4 – 6 below.



4 Which color is most likely to occur?
orange

5 Which color is expected to occur twice as often as blue?
red

6 Which color is least likely to occur?
blue



Name _____ Date _____

Use the following diagram for questions 7 – 9.

Raymond placed these cards on his desk.

1	8	4	10
6	7	5	3

- 7** If Raymond randomly selected one card, what is the probability Raymond selected an odd card?

$$\frac{4}{8}$$

- 8** If Raymond randomly selected one card, tossed it on the floor and selected a second card, what is the probability Raymond selected two odd cards?

$$\frac{12}{56}$$

- 9** If Raymond randomly pointed at one card, then pointed at a second card, what is the probability he pointed at two even cards?

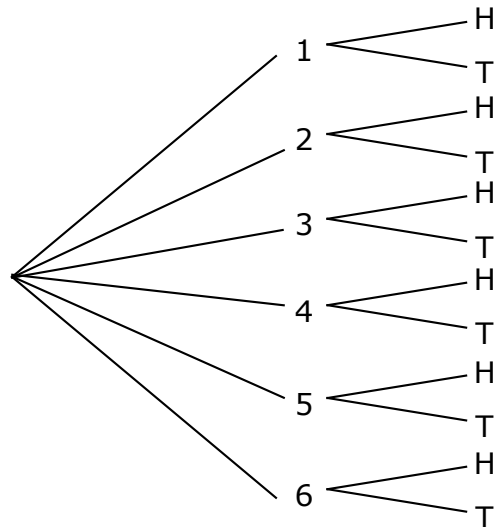
$$\frac{16}{64}$$



For questions 10 – 13, use the information below.

Sally conducted an experiment involving rolling one six-sided die and flipping a fair coin.

- 10** Construct the sample space for Sally’s experiment.



- 11** Use the sample space to determine the probability that in her experiment, Sally will roll a 1 and the coin will land on tails.

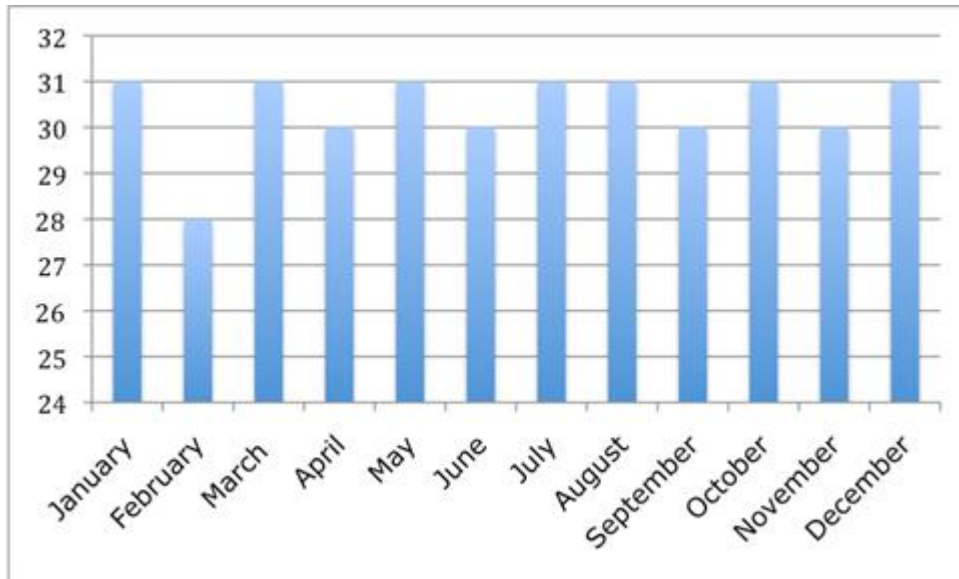
$$\frac{1}{12}$$

- 12** P(even and heads) = $\frac{3}{12}$

- 13** P(odd and tails) = $\frac{3}{12}$



For questions 14 – 16, use the following graph.



- 14** Tyrone created the following table of data to correspond with the graph, but he made a mistake. Identify Tyrone’s mistake.
November has only 30 days, not 31.

Month	Number of Days
January	31
February	28
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	31
December	31

- 15** Hannah created this table of data to correspond with the graph. Did Hannah make a mistake? If so, identify her mistake.
Hannah did not make a mistake.

Month	Number of Days
January	31
February	28
March	31
April	30
May	31
June	30
July	31
August	31
September	30
October	31
November	30
December	31

- 16** Based on the data in the graph, what is the probability that Amelia will randomly select two days in the month of April?

$$P(\text{April}) = \frac{30}{365} = \frac{6}{73}$$

$$P(\text{April, April}) = \frac{6}{73} \times \frac{6}{73} = \frac{36}{5329}$$

