

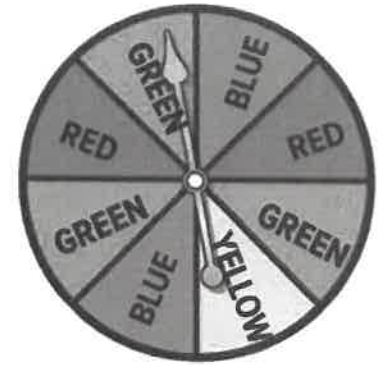
PROBABILITY ATTACK!

Study Day Game

#1. Find the probability.

$P(\text{green}) =$

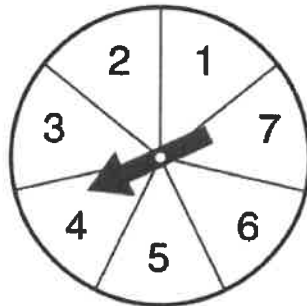
$$\frac{3}{8}$$



#2. Find the probability.

$P(\text{odd}) =$

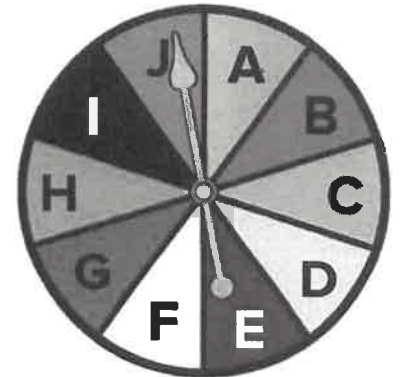
$$\frac{4}{7}$$



#3. Find the probability.

$P(\text{not J or A}) =$

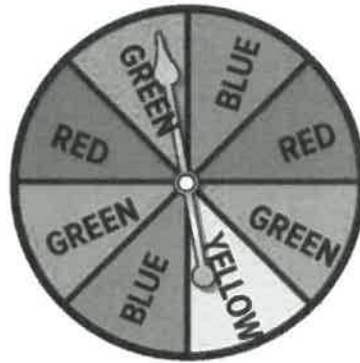
$$\frac{8 \div 2}{10 \div 2} = \frac{4}{5}$$



#4. Find the probability.

$P(\text{not yellow}) =$

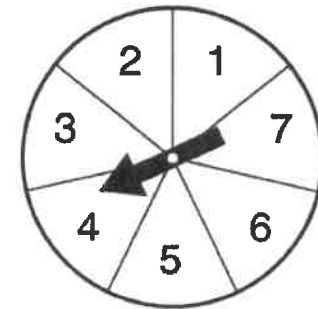
$$\frac{7}{8}$$



#5. Find the probability.

$P(\text{not } 3) =$

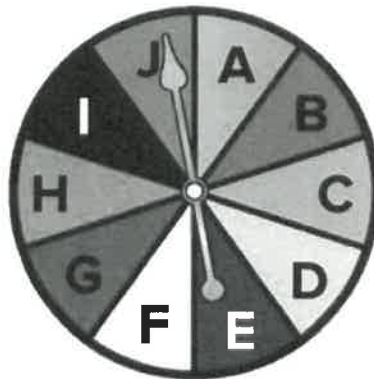
$$\frac{6}{7}$$



#6. Find the probability.

$P(\text{vowel}) =$

$$\frac{3}{10}$$

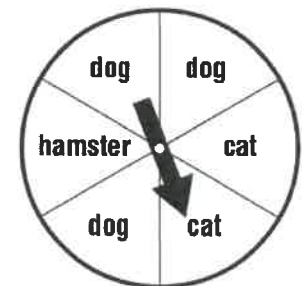


#7. Find the THEORETICAL probability.

When you volunteer at the local animal shelter they have you spin the spinner to the right to find out what animal you will work with.

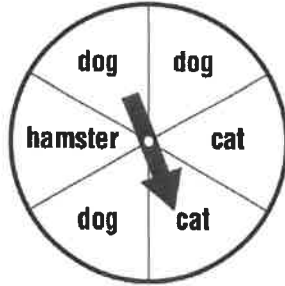
What is the theoretical probability you work with hamsters?

$$\frac{1}{6}$$



#8. Find the THEORETICAL probability.

When you volunteer at the local animal shelter they have you spin the spinner to the right to find out what animal you will work with.



What is the theoretical probability you DO NOT work with cats?

$$\frac{4}{6} = \left(\frac{2}{3}\right)$$

#9. Find the EXPERIMENTAL probability.

Use the table to the right to find the experimental probability of an even number being rolled.

Number on Cube	Frequency
1	8
2	3
3	9
4	6
5	4
6	6

$$\frac{15 \div 3}{36 \div 3} = \left(\frac{5}{12}\right)$$

#10. Find the EXPERIMENTAL probability.

Use the table to the right to find the experimental probability of rolling a prime number.

Number on Cube	Frequency
1	8
2	3
3	9
4	6
5	4
6	6


$$\frac{16 \div 4}{36 \div 4} = \left(\frac{4}{9}\right)$$

#11. I can use EXPERIMENTAL probability to make predictions about future events.

The frequency table shows the results of a survey of 70 zoo visitors who were asked to name their favorite animal exhibit.

Suppose 540 people visit the zoo. Predict how many people will choose the monkey exhibit as their favorite.

What is your Favorite Animal Exhibit?		
Exhibit	Tally	Frequency
Bears		6
Elephants		17
Monkeys		21
Penguins		13
Snakes		13



$$\frac{21}{70} = \frac{x}{540}$$

162 people

$$70x = 21(540)$$

$$70x = 11,340$$

$$x = 162$$

#12. I can use EXPERIMENTAL probability to make predictions about future events.

Last month, gift shop customers bought 40 birthday cards, 19 congratulations cards, 20 holiday cards, and 21 thank you cards.

Suppose 125 customers buy cards next month. How many would you predict to buy a birthday card?

$$\frac{40}{100} = \frac{x}{125}$$

$$100x = 40(125)$$

$$\frac{100x}{100} = \frac{5000}{100}$$

$$x = 50$$

#14. Use the Fundamental Counting Principle to find the total number of possible outcomes.

Rolling a number cube and spinning a spinner with eight equal sections.

$$6 \times 8 = 48$$

$$48 \text{ outcomes}$$

#13. Use the Fundamental Counting Principle to find the total number of possible outcomes.

Choosing coffee or tea; with cream, milk, or honey; served in a glass or a plastic cup

$$2 \times 3 \times 2$$

$$\checkmark$$
$$6 \times 2 = 12$$

$$12 \text{ combinations}$$

#15. Use the Fundamental Counting Principle to find the total number of possible outcomes.

The table shows cell phone options offered by a wireless phone company.

Phone Brands	Payment Plans	Accessories
Brand A	Individual	Leather case
Brand B	Family	Car mount
Brand C	Business	Headset
	Government	Travel charger

How many combinations of a phone, a payment plan, and an accessory are there?

$$3 \times 4 \times 5$$

$$\checkmark$$
$$12 \times 5 = 60$$

$$60 \text{ combination}$$

#16. Calculate the probability of the series of events.

There are 4 oranges, 7 bananas, and 5 apples in a fruit basket. You eat a piece of fruit at random, then your friend does.

$P(\text{orange, orange}) =$

$$\frac{4}{16} \cdot \frac{3}{15} = \frac{12 \div 12}{240 \div 12} = \left(\frac{1}{20} \right)$$

#17. Calculate the probability of the series of events.

A penny is tossed and a number cube is rolled.

$P(\text{heads, odd}) =$

$$\frac{1}{2} \cdot \frac{3}{6} = \left(\frac{1}{4} \right)$$

#18. Calculate the probability of the series of events.

Cards labeled 4, 5, 6, 7, and 8 are in a stack. A card is drawn and not replaced. Then a second card is drawn.

$P(\text{even, even}) =$

$$\frac{3}{5} \cdot \frac{2}{4} = \left(\frac{3}{10} \right)$$

#19. Calculate the probability of the series of events.

A number cube is rolled and a letter is selected from the word AMERICA.

$P(6, \text{vowel}) =$

$$\frac{1}{6} \cdot \frac{4}{7} = \left(\frac{2}{21} \right)$$

#20. Calculate the probability of the series of events.

Cards labeled 4, 5, 6, 7, and 8 are in a stack. A card is drawn and not replaced. Then a second card is drawn.

$P(4, \text{not } 7) =$

$$\frac{1}{5} \cdot \frac{3}{4} = \frac{3}{20}$$

#21. Calculate the probability of the series of events.

A laundry basket contains 18 blue socks and 24 black socks.

What is the probability of picking at random a black sock, not replacing, then picking another black sock?

$$\frac{4}{7} \cdot \frac{23}{41} = \frac{92}{287}$$