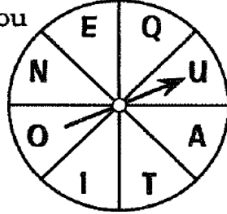


Why Is Gigi a Successful Dancer in Paris?

Find each correct answer in the set of answers under the exercise and cross out the letter above it.

THEORETICAL PROBABILITY. In Exercises 1-8, express probabilities as fractions in lowest terms.

1. Each time you spin this spinner, how many equally likely outcomes are there?



2. Find each probability if you spin the spinner once.

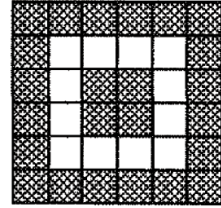
- a. P(a vowel).
- b. P(a consonant).
- c. P("Q").

3. If you spin the spinner 400 times, about how many times would you expect it to stop on:

- a. a vowel?
- b. the letter "N"?

4. If you roll a regular 6-faced die 1200 times, about how many times would you expect to get a 5?

5. If a dart hits this target randomly, how many equally likely outcomes are there?



6. If a dart hits the target randomly, what is the probability it will hit:

- a. The bullseye (one of the center squares)?
- b. Any shaded square?

7. If a dart hits the target randomly 180 times, about how many times would you expect it to hit:

- a. the bullseye?
- b. a white square?

8. Karina tossed a coin 10 times and got heads every time. What is the probability she will get heads on the next toss?

I	T	S	O	H	O	T	B	E	C	S	T	A	R	O	F	I	N	E
$\frac{2}{3}$	$\frac{1}{8}$	$\frac{1}{10}$	60	225	$\frac{5}{8}$	200	250	$\frac{1}{6}$	40	20	$\frac{1}{9}$	15	$\frac{1}{2}$	50	8	36	$\frac{4}{5}$	$\frac{3}{8}$

II. One of these names is to be drawn from a hat. Determine each probability below:

Mary Jenny Bob Marilyn Bill Jack Jerry Tina Connie Joe

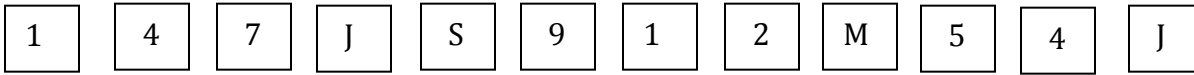
1. P(3-letter name) = $\frac{2}{10}$ or $\frac{1}{5}$ (What is the probability of drawing a 3-letter name?)

2. P(4-letter name) = _____ 3. P(name starting with B) = _____

4. P(name starting with T) = _____ 5. P(7-letter name) = _____

6. P(name starting with S) = _____ 7. P(name ending with Y) = _____

III. One of these cards will be drawn without looking.



8. $P(2) = \frac{1}{12}$ *number of twos*
total number of cards

9. $P(5) = \underline{\hspace{2cm}}$ 10. $P(J) = \underline{\hspace{2cm}}$ 11. $P(\text{a number}) = \underline{\hspace{2cm}}$

12. $P(4) = \underline{\hspace{2cm}}$ 13. $P(T) = \underline{\hspace{2cm}}$ 14. $P(\text{a letter}) = \underline{\hspace{2cm}}$

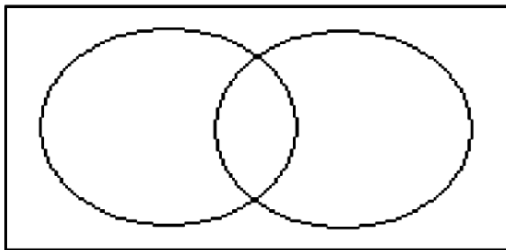
III. One card is drawn from a deck of 52 cards. What is the probability of drawing...

15. $P(\text{ace}) = \underline{\hspace{2cm}}$ 16. $P(\text{face card - K, J, Q}) = \underline{\hspace{2cm}}$

17. $P(\text{a red 10}) = \underline{\hspace{2cm}}$ 18. $P(\text{NOT a diamond}) = \underline{\hspace{2cm}}$

Short Answer

8. In a class of 35 students, 10 have green eyes, 15 have brown hair, and 7 have both. Record the data in a venn diagram. Then find out how many students have neither green eyes nor brown hair.



Neither green eyes nor brown hair:

9. List the sample space of flipping three coins. Then find the following (put answers in decimal form):

- a) $P(3 \text{ Tails}) = \underline{\hspace{2cm}}$
 b) $P(\text{at least 1 head}) = \underline{\hspace{2cm}}$
 c) $P(\text{the first coin being heads}) = \underline{\hspace{2cm}}$
 d) $P(2 \text{ or more heads}) = \underline{\hspace{2cm}}$

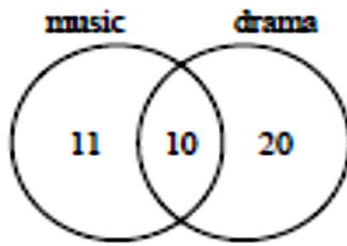
10. In the Robertson Animal Shelter's monthly report, it was shown that there are currently 24 dogs and 18 cats available for adoption. There are 16 male dogs and 6 female cats. Construct a 2-way frequency table with the information given.

	DOG	CAT	TOTAL
MALE			
FEMALE			
TOTAL			

What is the probability that a pet chosen at random is female?

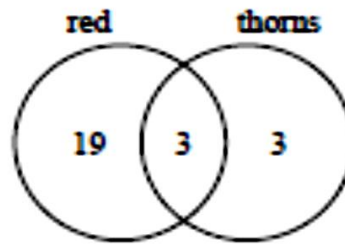
Use the diagram to solve each problem.

1) The diagram below shows the classes students are taking.



How many students are taking drama?

2) The diagram below shows the attributes of flowers in a flower shop.



How many flowers only had thorns?

3. List the sample space, S , for each of the following:

a. Tossing two coins

b. Drawing at random a marble from a set of 3 red, 2 yellow and 2 white marbles.

4. Favorite Sports: In a class of 34 students, 20 like basketball, 10 like football, and 8 like both.

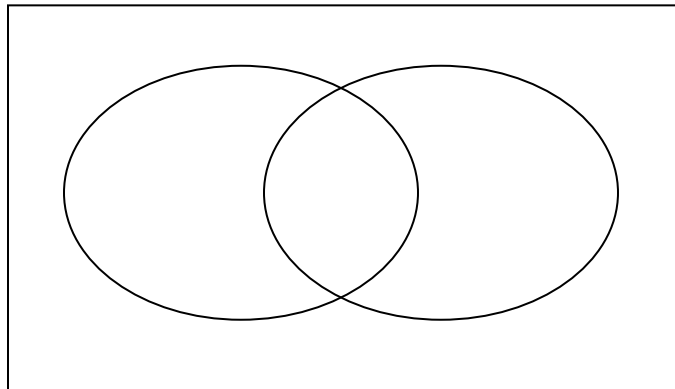
a. Put this information into a Venn Diagram. If the sample space, S , is the set of all students in the class, let students that like basketball be set A and students that like football be set B .

b. What is $A \cup B$? _____

c. What is $A \cap B$? _____

d. What is A^c ? _____

e. What is $(A \cup B)^c$? _____



5. Find the following probabilities:

a. $P(A)$ _____

b. $P(A \cap B)$ _____