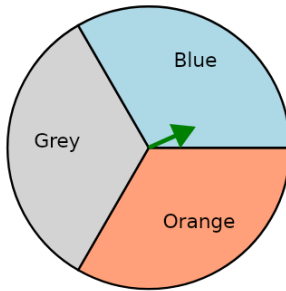




Probability and Statistics - Counting and Probability Foundations

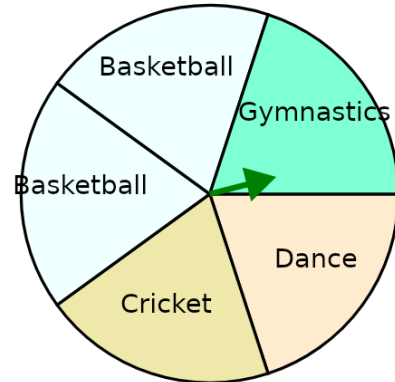
- 1 Calculate the probability of spinning Orange. Show as a fraction



P(Orange)

A	$\frac{3}{5}$	B	$\frac{1}{3}$
C	$\frac{2}{7}$	D	$\frac{1}{4}$
E	$\frac{3}{4}$		

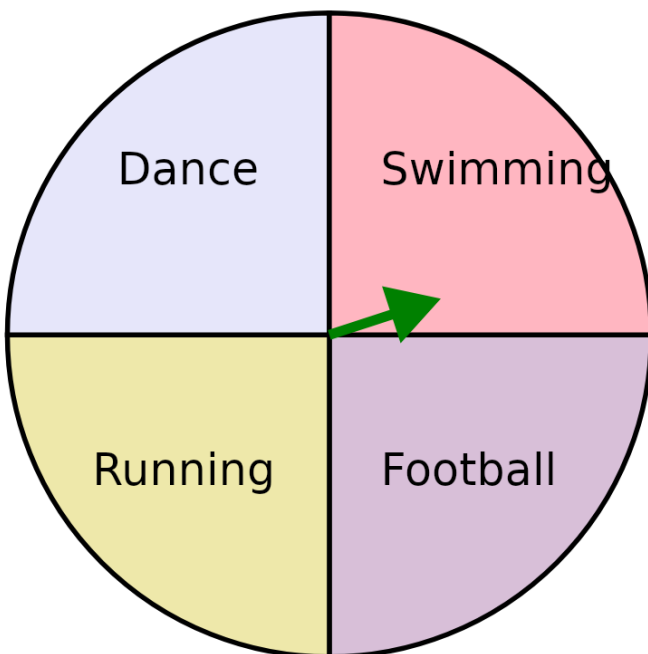
- 2 Calculate the probability of spinning Dance. Show as a decimal



P(Dance)

A	0.23	B	0.19	C	0.22
D	0	E	0.2	F	0.17

- 3 Calculate the probability of spinning Football. Show as a fraction



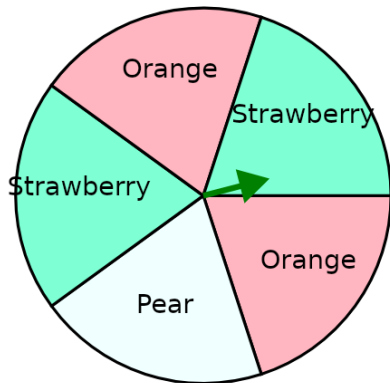
P(Football)

A	$\frac{1}{7}$
B	$\frac{2}{5}$
C	$\frac{2}{7}$
D	$\frac{1}{4}$



Probability and Statistics - Counting and Probability Foundations

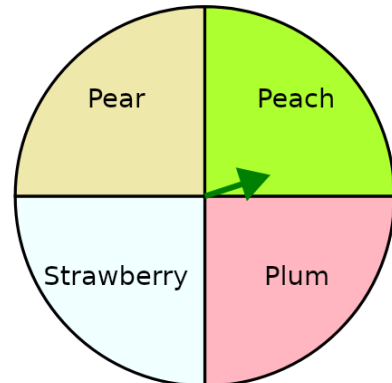
- 4 Calculate the probability of spinning Orange. Show as a decimal



P(Orange)

A	0.22	B	0.4	C	0.41
D	1.2	E	0.6	F	0.2

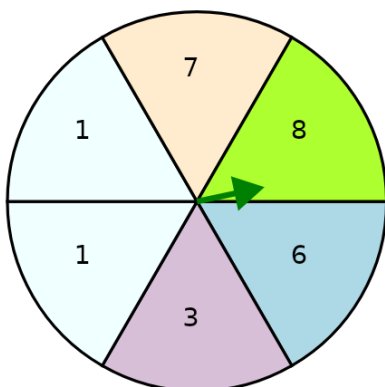
- 5 Calculate the probability of spinning Pear. Show as a percent



P(Pear)

A	25%	B	125%	C	100%
D	27%	E	26%	F	14%

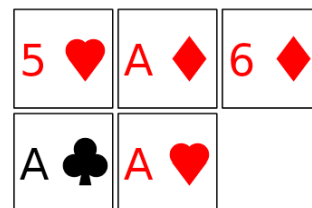
- 6 Calculate the probability of spinning 1. Show as a percent



P(1)

A	29%	B	83%	C	17%
D	20%	E	36%	F	33%

- 7 Calculate the probability of drawing a Ace of Clubs. Show as a fraction



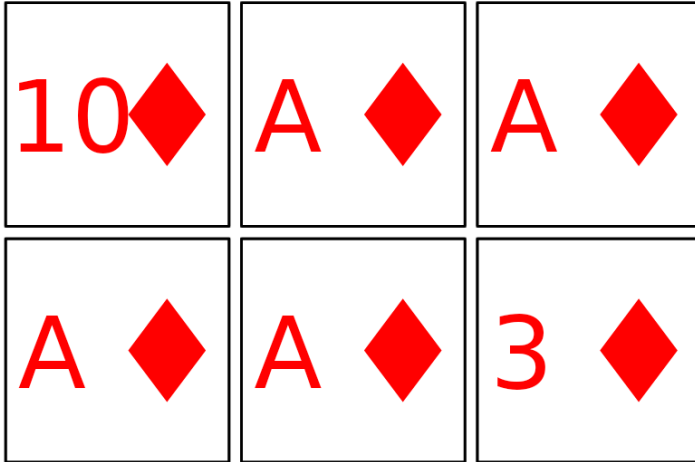
P(A Clubs)

A	$\frac{4}{7}$	B	$\frac{5}{3}$
C	$\frac{1}{7}$	D	$\frac{2}{5}$
E	$\frac{1}{5}$		



Probability and Statistics - Counting and Probability Foundations

8 Calculate the probability of drawing a Ace of Diamonds. Show as a fraction



P(Ace of Diamonds)

A

$$\frac{1}{7}$$

B

$$\frac{3}{6}$$

C

$$\frac{4}{6}$$

D

$$\frac{1}{4}$$

9 Calculate the probability of drawing a 6 of Spades. Show as a decimal



P(6 of Spades)

A

0.33

B

0.27

C

1

D

0.35

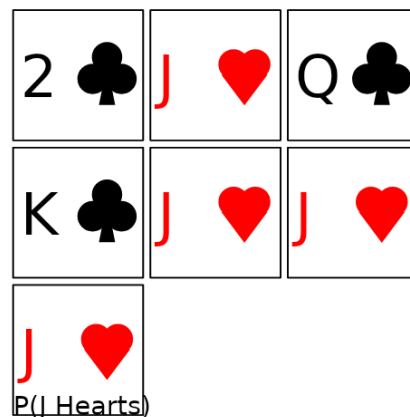
E

0.3

F

0.17

10 Calculate the probability of drawing a Jack of Hearts. Show as a decimal



P(Jack of Hearts)

A

0

B

1

C

0.57

D

0.44

E

0.43

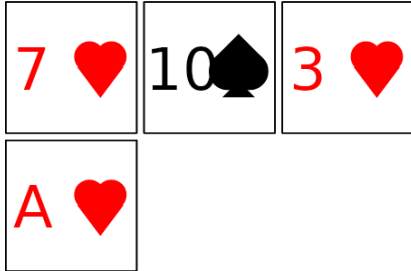
F

0.29



Probability and Statistics - Counting and Probability Foundations

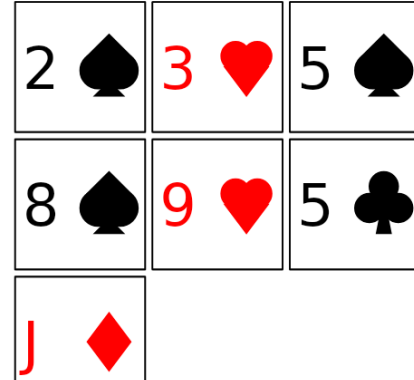
11 Calculate the probability of drawing a 7 of Hearts. Show as a percent



P(7 Hearts)

A 0%	B 25%	C 13%
D 17%	E 125%	F 28%

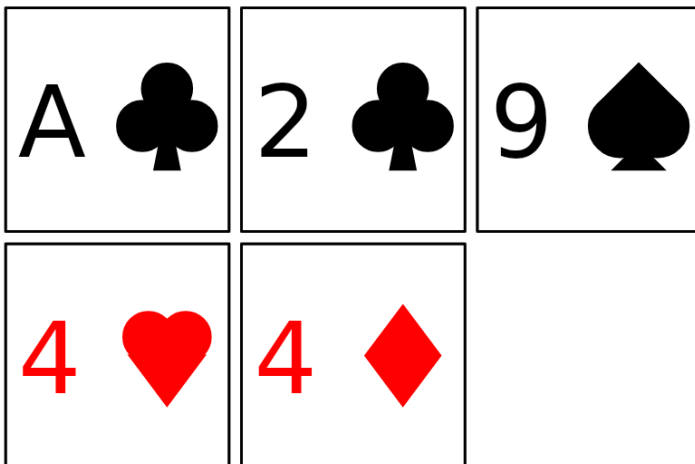
12 Calculate the probability of drawing a Jack of Diamonds. Show as a percent



P(J Diamonds)

A 57%	B 14%	C 12%
D 43%	E 71%	F 11%

13 Calculate the probability of drawing any 9. Show as a fraction



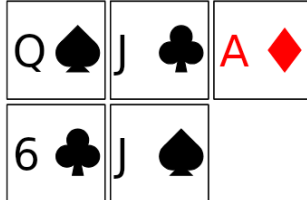
P(9)

A $\frac{4}{6}$
B $\frac{1}{3}$
C $\frac{1}{5}$
D $\frac{3}{3}$



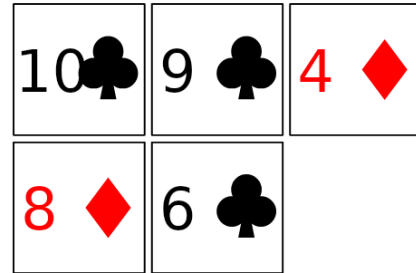
Probability and Statistics - Counting and Probability Foundations

14 Calculate the probability of drawing any Jack. Show as a fraction

 $P(J)$

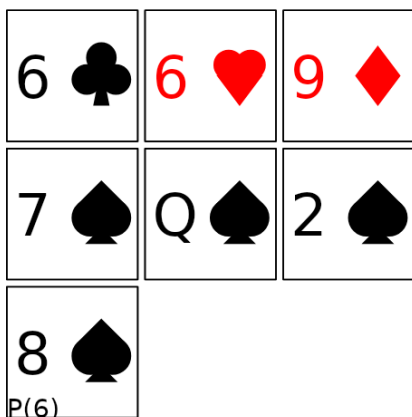
A	$\frac{2}{6}$	B	$\frac{3}{6}$
C	$\frac{6}{6}$	D	$\frac{2}{4}$
E	$\frac{2}{5}$		

15 Calculate the probability of drawing any 10. Show as a decimal

 $P(10)$

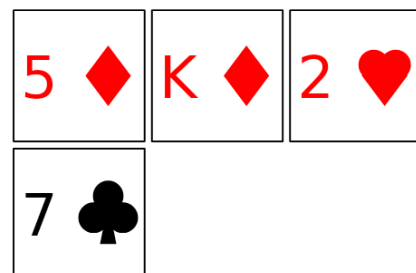
A	0.2	B	0.16	C	1
D	0.24	E	0.25	F	0.13

16 Calculate the probability of drawing any 6. Show as a decimal

 $P(6)$

A	1	B	0.14	C	0.86
D	0.34	E	0.71	F	0.29

17 Calculate the probability of drawing any King. Show as a percent

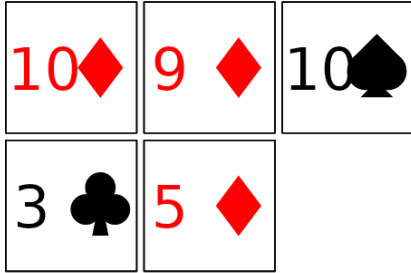
 $P(K)$

A	25%	B	50%	C	100%
D	75%	E	21%	F	33%



Probability and Statistics - Counting and Probability Foundations

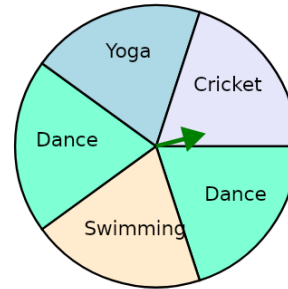
18 Calculate the probability of drawing any 10. Show as a percent



P(10)

A 33%	B 20%	C 45%
D 40%	E 44%	F 60%

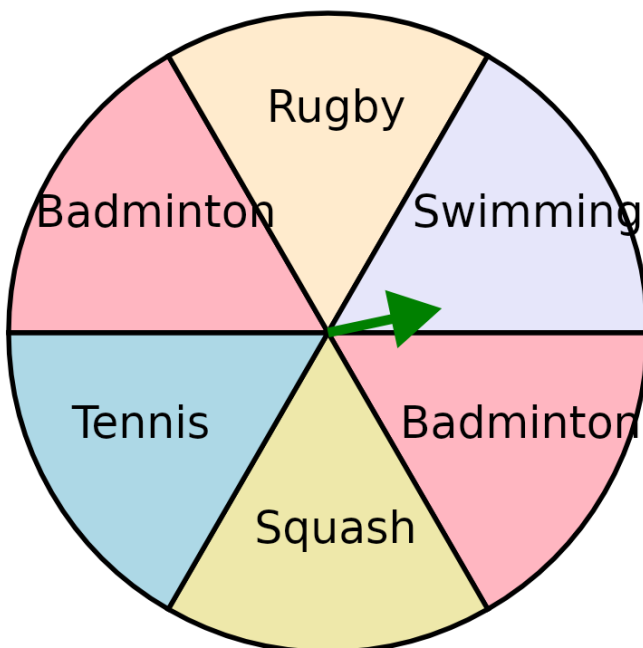
19 Calculate the probability of spinning a ball sport. Show as a fraction



P(ball sport)

A $\frac{1}{8}$	B $\frac{3}{9}$
C $\frac{2}{9}$	D $\frac{1}{5}$
E $\frac{1}{4}$	

20 Calculate the probability of spinning a racquet sport. Show as a fraction



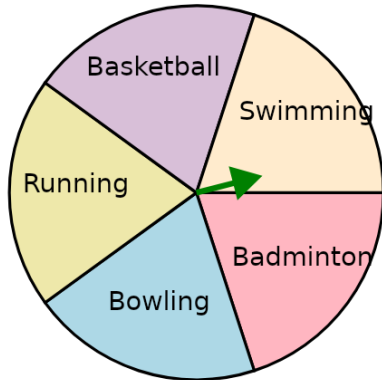
P(racquet sport)

A $\frac{1}{3}$
B $\frac{1}{8}$
C $\frac{7}{8}$
D $\frac{4}{6}$



Probability and Statistics - Counting and Probability Foundations

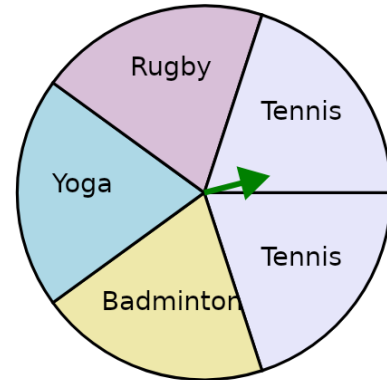
21 Calculate the probability of spinning a racquet sport. Show as a decimal



P(racquet sport)

A	0.8	B	0.14	C	1
D	0.24	E	0.4	F	0.2

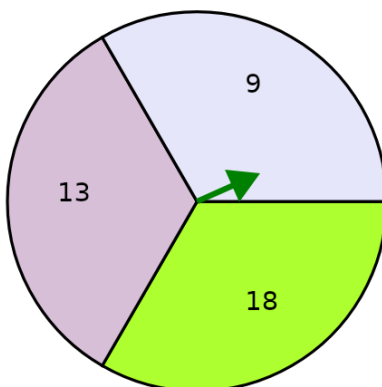
22 Calculate the probability of spinning a racquet sport. Show as a decimal



P(racquet sport)

A	0.6	B	0	C	3
D	0.52	E	0.2	F	1

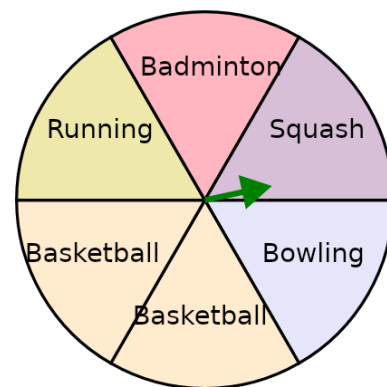
23 Calculate the probability of spinning an even number. Show as a percent



P(even)

A	67%	B	100%	C	35%
D	0%	E	33%	F	27%

24 Calculate the probability of spinning a racquet sport. Show as a percent



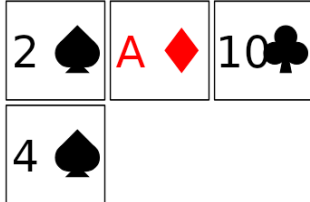
P(racquet sport)

A	31%	B	33%	C	29%
D	37%	E	67%	F	27%



Probability and Statistics - Counting and Probability Foundations

25 Calculate the probability of drawing Ace, 2 in order. Show as an equation



P(A, 2 in order)

A $\frac{1}{5} \cdot \frac{1}{4} \cdot \frac{1}{3}$

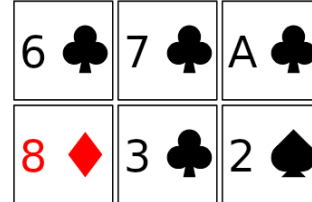
C $\frac{3}{6}$

E $\frac{2}{4} \cdot \frac{2}{3} \cdot \frac{2}{2}$

B $\frac{1}{4} \cdot \frac{1}{3}$

D $\frac{2}{3} \cdot \frac{2}{2} \cdot \frac{2}{2}$

26 Calculate the probability of drawing Ace, 2, 3 in order. Show as an equation



P(A, 2, 3 in order)

A $\frac{3}{4} \cdot \frac{3}{3} \cdot \frac{3}{2} \cdot \frac{3}{2}$

C $\frac{2}{7} \cdot \frac{2}{6} \cdot \frac{2}{5} \cdot \frac{2}{4}$

E $\frac{1}{6} \cdot \frac{1}{5} \cdot \frac{1}{4}$

B $\frac{3}{5} \cdot \frac{3}{4} \cdot \frac{3}{3} \cdot \frac{3}{2} \cdot \frac{3}{2}$

D $\frac{1}{8} \cdot \frac{1}{7}$

27 Calculate the probability of drawing 9, 10 in order. Show as a fraction



P(9, 10 in order)

A $\frac{4}{19}$

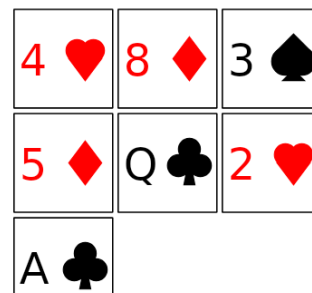
C $\frac{5}{5}$

E $\frac{1}{22}$

B $\frac{1}{6}$

D $\frac{9}{17}$

28 Calculate the probability of drawing 3, 4, 5 in order. Show as a fraction



P(3, 4, 5 in order)

A $\frac{8}{18}$

C $\frac{1}{210}$

E $\frac{1}{25}$

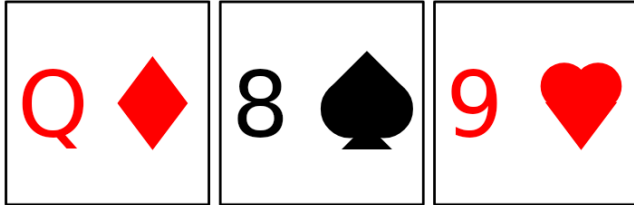
B $\frac{6}{25}$

D $\frac{14}{10}$



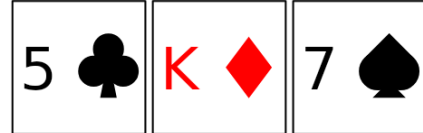
Probability and Statistics - Counting and Probability Foundations

29 How many distinct ways can these cards be ordered? Show as a multiplication.



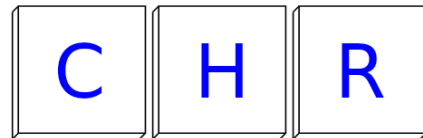
- | | |
|------------------------------------|--|
| A
$3 \cdot 2$ | B
$\frac{3 \cdot 2}{2}$ |
| C
$4 \cdot 3 \cdot 2$ | D
$5 \cdot 4 \cdot 3 \cdot 2$ |
| E
$\frac{3 \cdot 2}{3 \cdot 2}$ | F
$\frac{3 \cdot 2}{1 \cdot 3 \cdot 2}$ |

30 How many distinct ways can these cards be ordered?



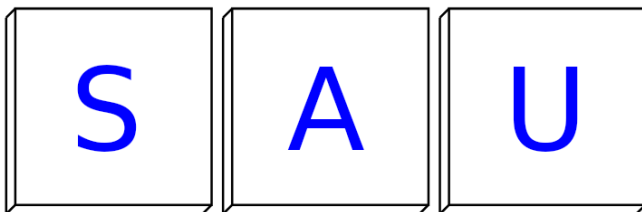
- | | | |
|--------|---------|---------|
| A
1 | B
12 | C
0 |
| D
6 | E
4 | F
19 |

31 How many distinct ways can these letter tiles be ordered?



- | | | |
|--------|---------|---------|
| A
3 | B
6 | C
10 |
| D
8 | E
13 | F
1 |

32 How many distinct ways can these letter tiles be ordered? Show as a multiplication.

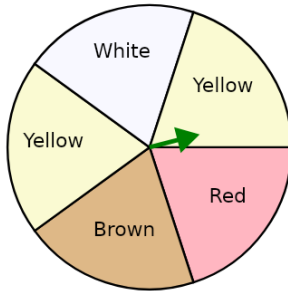


- | |
|--|
| A
$3 \cdot 2$ |
| B
$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$ |
| C
$\frac{3 \cdot 2}{2}$ |
| D
$\frac{3 \cdot 2}{3 \cdot 2 \cdot 1}$ |



Probability and Statistics - Counting and Probability Foundations

33 Calculate the probability of spinning Red twice in a row. Show as an equation



P(Red twice)

A $\frac{3}{27} \cdot \frac{3}{27}$

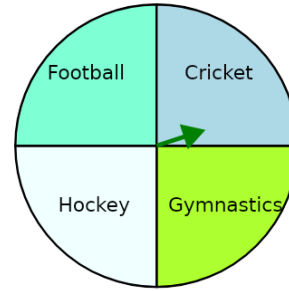
B $\frac{4}{24} \cdot \frac{4}{24}$

C $\frac{1}{5} \cdot \frac{1}{5}$

D $\frac{1}{23} \cdot \frac{1}{23}$

E $\frac{4}{23} \cdot \frac{4}{23}$

34 Calculate the probability of spinning Hockey twice in a row. Show as an equation



P(Hockey twice)

A $\frac{1}{18} \cdot \frac{1}{18}$

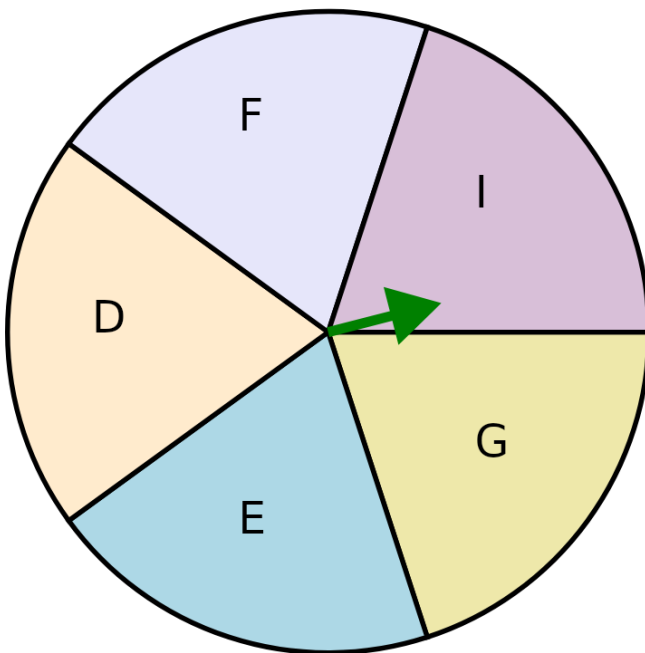
B $\frac{4}{14} \cdot \frac{4}{14}$

C $\frac{3}{15} \cdot \frac{3}{15}$

D $\frac{1}{4} \cdot \frac{1}{4}$

E $\frac{1}{16} \cdot \frac{1}{16}$

35 Calculate the probability of spinning E twice in a row. Show as a fraction



P(E twice)

A $\frac{1}{27}$

B $\frac{1}{24}$

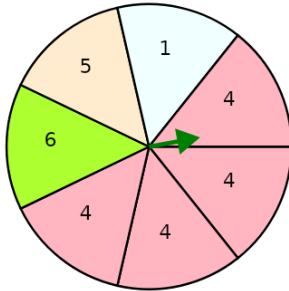
C $\frac{1}{25}$

D $\frac{4}{26}$



Probability and Statistics - Counting and Probability Foundations

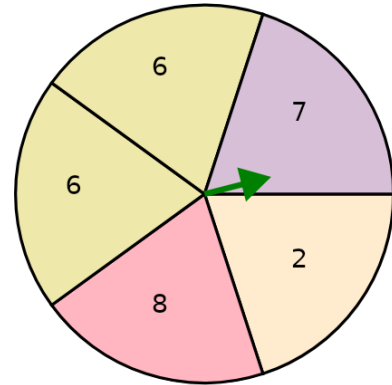
36 Calculate the probability of spinning 4 twice in a row. Show as a fraction



P(4 twice)

A	$\frac{18}{47}$	B	$\frac{17}{50}$
C	$\frac{11}{47}$	D	$\frac{11}{49}$
E	$\frac{16}{49}$		

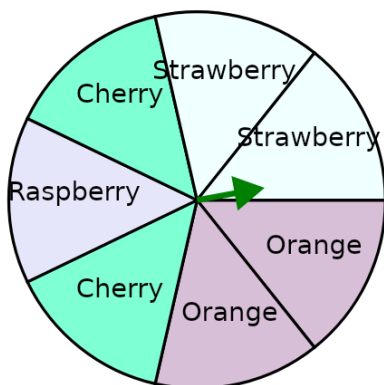
37 Calculate the probability of spinning 8 twice in a row. Show as a decimal



P(8 twice)

A	0.16	B	0.04	C	0.08
D	0.05	E	0.12	F	0.03

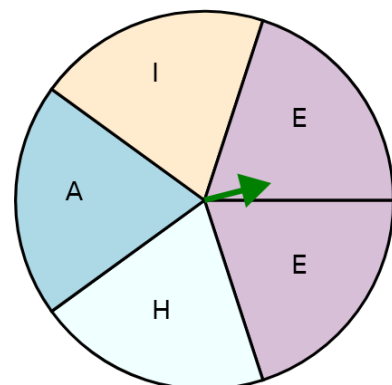
38 Calculate the probability of spinning Orange twice in a row. Show as a decimal



P(Orange twice)

A	0.14	B	0.12	C	0.07
D	0.06	E	0.08	F	0

39 Calculate the probability of spinning I twice in a row. Show as a percent



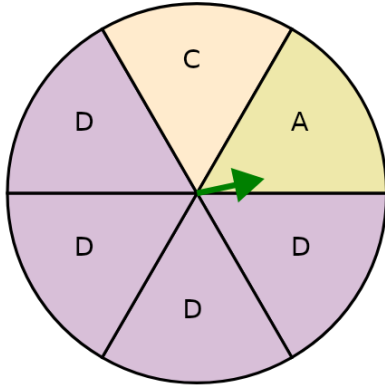
P(I twice)

A	3%	B	4%	C	16%
D	5%	E	400%	F	12%



Probability and Statistics - Counting and Probability Foundations

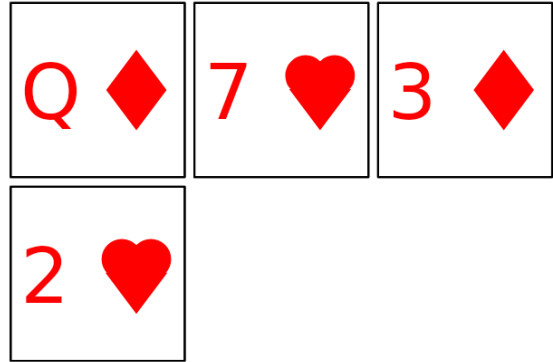
40 Calculate the probability of spinning D twice in a row. Show as a percent



P(D twice)

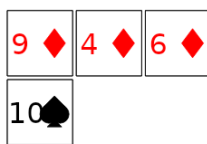
A	50%	B	41%	C	44%
D	39%	E	33%	F	31%

41 How many distinct ways can these cards be ordered? Show as a multiplication.



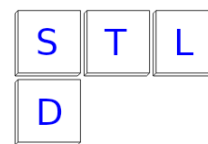
A	$\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$	B	$4 \cdot 3 \cdot 2$
C	$\frac{4 \cdot 3 \cdot 2}{4 \cdot 3 \cdot 2 \cdot 1}$	D	$\frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{2}$
E	$3 \cdot 2$	F	$\frac{6 \cdot 5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$

42 How many distinct ways can these cards be ordered?



A	6	B	2	C	3
D	24	E	5	F	1

43 How many distinct ways can these letter tiles be ordered?

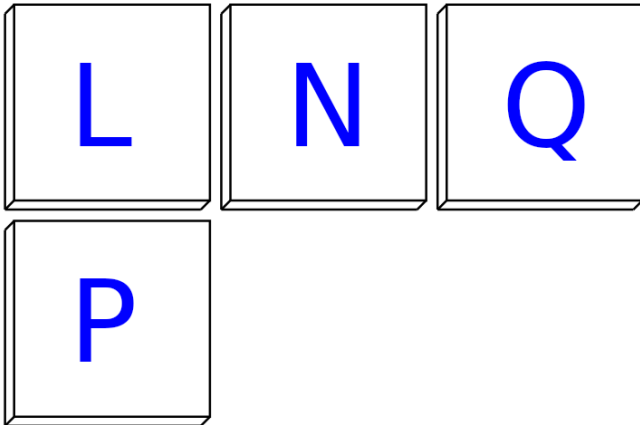


A	2	B	13	C	18
D	1	E	24	F	5



Probability and Statistics - Counting and Probability Foundations

44 How many distinct ways can these letter tiles be ordered? Show as a multiplication.



A

$$\frac{4 \cdot 3 \cdot 2}{3 \cdot 2}$$

B

$$4 \cdot 3 \cdot 2$$

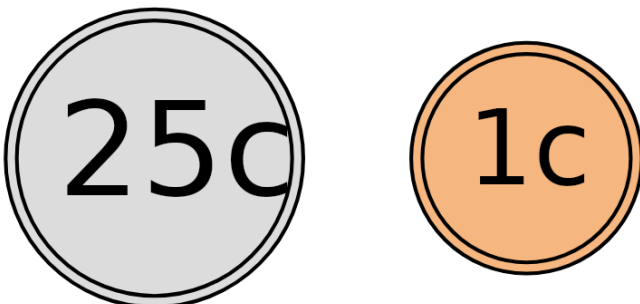
C

$$\frac{4 \cdot 3 \cdot 2}{1 \cdot 2}$$

D

$$\frac{4 \cdot 3 \cdot 2}{4 \cdot 3 \cdot 2 \cdot 1}$$

45 What is the equation for the chance of flipping at least one tails on these coins?



A

$$\frac{1}{2} + \frac{1}{2} - \frac{1}{2} \cdot \frac{1}{2}$$

B

$$1 - \frac{1}{2} \cdot \frac{1}{2}$$

C

$$\frac{1}{2} \cdot \frac{1}{2}$$

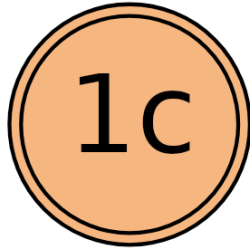
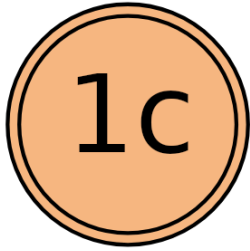
D

$$\frac{1}{2}$$



Probability and Statistics - Counting and Probability Foundations

46 What is the chance of flipping at least one tails on these coins?



A $\frac{2}{10}$

B $\frac{7}{10}$

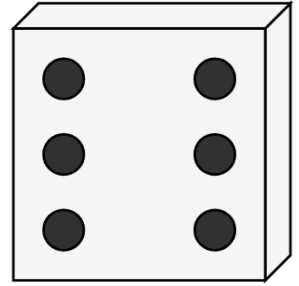
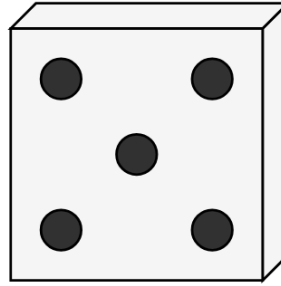
C $\frac{3}{4}$

D $\frac{1}{6}$

E $\frac{2}{8}$

F $\frac{5}{7}$

47 What is the chance of rolling at least one 2 on these dice?



A $\frac{16}{9}$

B $\frac{17}{71}$

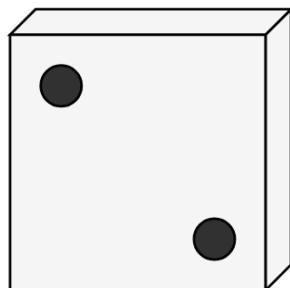
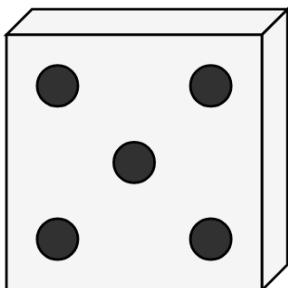
C $\frac{22}{59}$

D $\frac{12}{4}$

E $\frac{13}{26}$

F $\frac{11}{36}$

48 What is the equation for the chance of rolling at least one 4 on these dice?



A $1 - \frac{1}{6} \cdot \frac{1}{6}$

B $\frac{1}{6}$

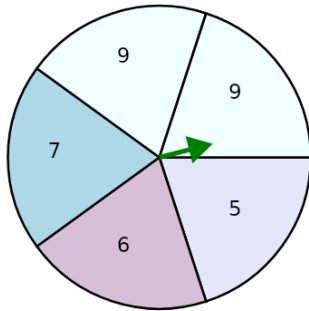
C $\frac{1}{6} + \frac{1}{6} - \frac{1}{6} \cdot \frac{1}{6}$

D $\frac{1}{6} \cdot \frac{1}{6}$



Probability and Statistics - Counting and Probability Foundations

49 Calculate the probability of spinning 6 at least once, given two spins. Show as an equation



P(6 in 2 spins)

A $\frac{1}{5} + \frac{1}{5} - \frac{1}{5} \cdot \frac{1}{5}$

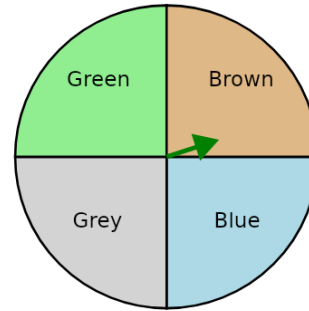
B $\frac{3}{5} - \frac{6}{4} \cdot \frac{9}{3}$

C $\frac{8}{5} + \frac{5}{7} \cdot \frac{8}{6}$

D $\frac{1}{4} + \frac{6}{3} \cdot \frac{5}{3}$

E $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} \cdot \frac{1}{5}$

50 Calculate the probability of spinning Grey at least once, given two spins. Show as an equation



P(Grey in 2 spins)

A $\frac{4}{6} - \frac{2}{5} \cdot \frac{8}{5}$

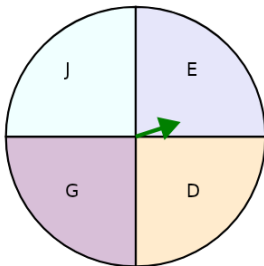
B $\frac{7}{2} - \frac{6}{6} \cdot \frac{4}{5}$

C $\frac{2}{3} + \frac{1}{3} \cdot \frac{1}{2}$

D $\frac{1}{4} + \frac{1}{4} - \frac{1}{4} \cdot \frac{1}{4}$

E $\frac{8}{2} + \frac{1}{3} \cdot \frac{8}{6}$

51 Calculate the probability of spinning E at least once, given two spins. Show as a fraction



P(E in 2 spins)

A $\frac{7}{14}$

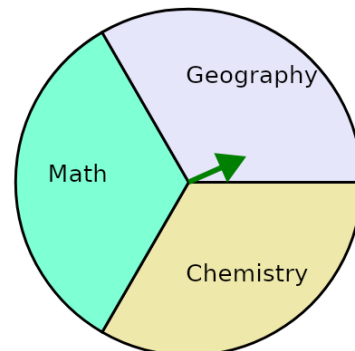
B $\frac{3}{15}$

C $\frac{10}{15}$

D $\frac{4}{15}$

E $\frac{7}{16}$

52 Calculate the probability of spinning Geography at least once, given two spins. Show as a decimal



P(Geography in 2 spins)

A 0.83

B 0.78

C 1

D 0.38

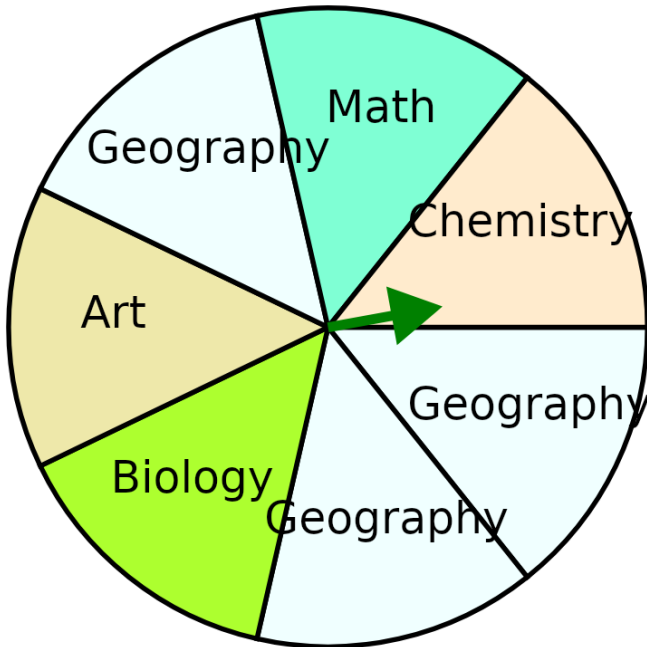
E 0.56

F 0



Probability and Statistics - Counting and Probability Foundations

53 Calculate the probability of spinning Geography at least once, given two spins. Show as a fraction



P(Geography in 2 spins)

A

$$\frac{33}{51}$$

B

$$\frac{28}{49}$$

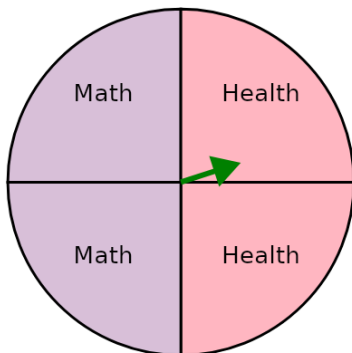
C

$$\frac{36}{50}$$

D

$$\frac{33}{49}$$

54 Calculate the probability of spinning Health at least once, given two spins. Show as a decimal



P(Health in 2 spins)

A

0.63

B

0.71

C

0.8

D

0.75

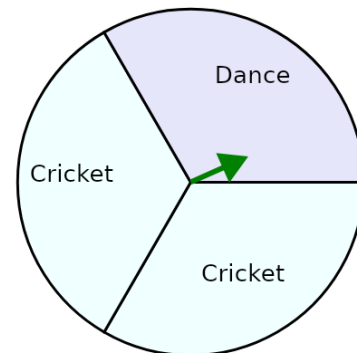
E

0.94

F

0.62

55 Calculate the probability of spinning Dance at least once, given two spins. Show as a percent



P(Dance in 2 spins)

A

33%

B

89%

C

56%

D

67%

E

63%

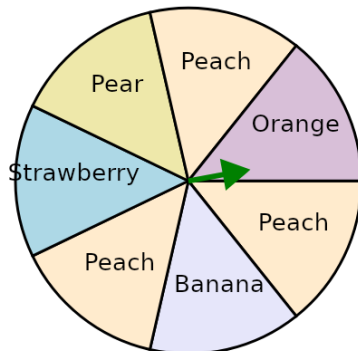
F

54%



Probability and Statistics - Counting and Probability Foundations

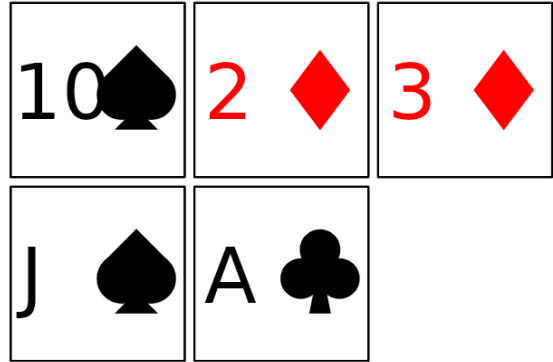
56 Calculate the probability of spinning Peach at least once, given two spins. Show as a percent



P(Peach in 2 spins)

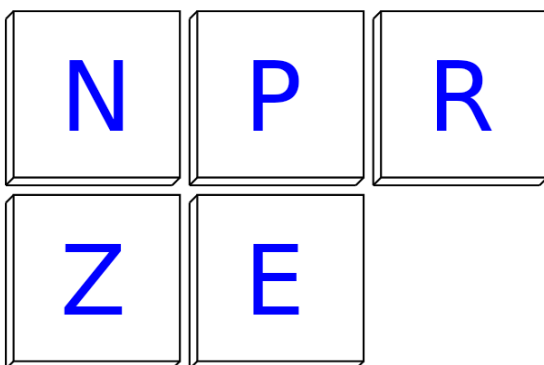
A 75%	B 58%	C 76%
D 67%	E 80%	F 71%

57 How many distinct ways can these cards be ordered? Show as a multiplication.



A $7 \cdot 6 \cdot 5 \cdot 4 \cdot 3 \cdot 2$	B $\frac{5 \cdot 4 \cdot 3 \cdot 2}{1 \cdot 2}$
C $\frac{5 \cdot 4 \cdot 3 \cdot 2}{5 \cdot 4 \cdot 3 \cdot 2 \cdot 1}$	D $\frac{5 \cdot 4 \cdot 3 \cdot 2}{1 \cdot 3 \cdot 2}$
E $5 \cdot 4 \cdot 3 \cdot 2$	

58 How many distinct ways can these letter tiles be ordered? Show as a multiplication.



A $3 \cdot 2$	B $5 \cdot 4 \cdot 3 \cdot 2$
C $\frac{5 \cdot 4 \cdot 3 \cdot 2}{2}$	D $\frac{5 \cdot 4 \cdot 3 \cdot 2}{1 \cdot 2}$
E $6 \cdot 5 \cdot 4 \cdot 3 \cdot 2$	F $\frac{5 \cdot 4 \cdot 3 \cdot 2}{3 \cdot 2}$