

Warm up:

You draw two cards from a deck without replacement.

- 1) P(2 diamonds) $\frac{13}{52} \cdot \frac{12}{51} = \frac{1}{17}$
- 2) P(2 face cards) $\frac{12}{52} \cdot \frac{11}{51} = \frac{11}{221}$
- 3) P(a pair of jacks) $\frac{4}{52} \cdot \frac{3}{51} = \frac{1}{221}$
- 4) P(any pair) $1 \cdot \frac{3}{51} = \frac{1}{17}$

HW Solutions

$$\frac{80}{100}$$

$$\frac{30}{100}$$

$$0.8 \times 0.3 = 0.24$$

$$\textcircled{24\%}$$

$$\textcircled{4} \quad \frac{\cancel{4}^1}{\cancel{9}_3} \cdot \frac{\cancel{3}^1}{\cancel{20}_2} = \left(\frac{1}{6} \right)$$

$$\frac{12}{22} =$$

$$\textcircled{5} \quad \frac{\cancel{2}^1}{\cancel{39}_3} \cdot \frac{5}{8} = \left(\frac{5}{24} \right)$$

⑬

$$\frac{2}{6} \cdot \frac{5}{56}$$

$\frac{5}{432}$

	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

Showdown

A restaurant has 8 appetizers, 6 entrees, and 4 desserts. How many different 3 course meals are possible?

$$8 \cdot 6 \cdot 4 = 192$$

In a bag you have blue, red, green, and white Airheads. You reach in to grab one.

$$P(\text{White}) = ? \quad \frac{5}{20} = \frac{1}{4}$$

<u>Color</u>	<u>Number of Pieces</u>
Blue Blue	7 7
Red Red	5 5
Green Green	3 3
White White	5 5

20

P(Red or Green) = ? $\frac{8}{20} = \frac{2}{5}$

<u>Color</u>	<u>Number of Pieces</u>
Blue <i>Blue</i>	7 <i>7</i>
Red <i>Red</i>	5 <i>5</i>
Green <i>Green</i>	3 <i>3</i>
White <i>White</i>	5 <i>5</i>

20

P(not Blue) = ?

$$\frac{13}{20}$$

<u>Color</u>		<u>Number of Pieces</u>	
Blue	Blue	7	7
Red	Red	5	5
Green	Green	3	3
White	White	5	5

20

The probability of winning Game A is $\frac{4}{5}$. The probability of winning Game B is $\frac{7}{10}$. Which game are you more likely to win?

If you roll a die twice, what is the probability of rolling a 6 and then an even number?

$$\frac{1}{6} \cdot \frac{\cancel{3}^1}{\cancel{6}_2} = \frac{1}{12}$$

You roll two die and observe the sum. What is the probability of rolling an 8?

$$\frac{5}{36}$$

2
3
4
5
6

6
5
4
3
2

You put a red marble, a blue marble, and a green marble into a bag. After drawing a marble from the bag 30 times, you recorded the following results:

red	13
blue	8
green	9

What is the theoretical probability of drawing a red marble from the bag? $\frac{1}{3}$

What is the experimental probability of drawing a red marble from the bag? $\frac{13}{30}$

You pick a card out of a deck, put it aside and then pick another. What is the probability that you choose an ace and then a 2?

You have 5 pairs of pants and 7 shirts. How many different outfits can you make?

$$5 \cdot 7 = 35$$

