Warm-Up

1. Put your phones away.

2. Take out your classwork/homework from yesterday to go over it.

What am I learning today?

Learning Objective 6.3

How to calculate 'OR' probability.

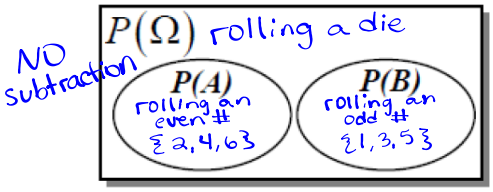
'OR' probability - The **PROBABILITY** which at least **ONE** event occurs

P(A or B) = P(A) + P(B) - P(A and B) <- ***IF NEEDED!!***

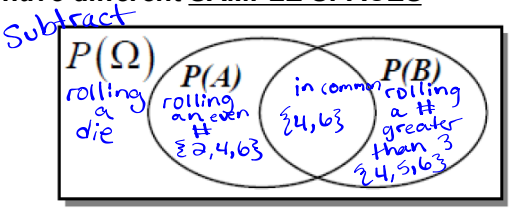
**Written as fractions first!

Two possibilities:

- **Mutually Exclusive Events** - Events which **DOESN'T** have any overlapping outcomes and have the ***same sample space.***

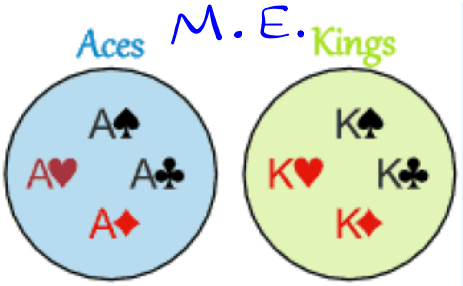


- **Inclusive Events** - Events which **DO** have overlapping outcomes **OR** the ***two events have different*** **SAMPLE SPACES**



Example 1:

P(drawing an Ace or drawing a King)

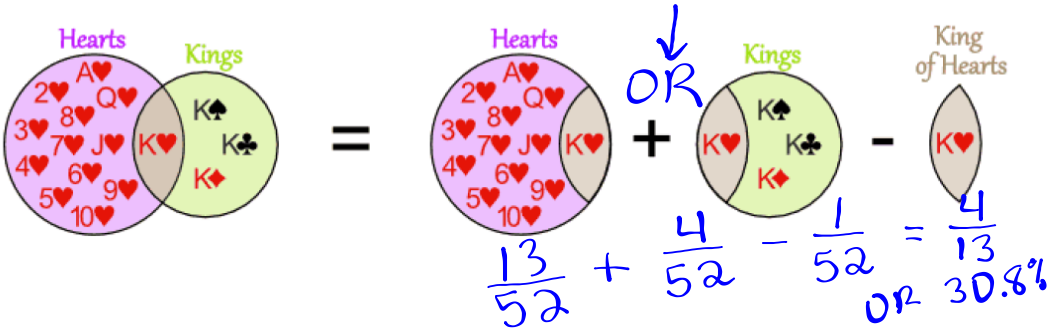


$\frac{4}{52} + \frac{4}{52}$

$\frac{2}{13}$ OR 15.4%

Example 2:

P(drawing a Heart or a King)



$\frac{13}{52} + \frac{4}{52} - \frac{1}{52} = \frac{4}{13}$ OR 30.8%

1. P(rolling a 4 or rolling an odd number)

$\frac{1}{6} + \frac{3}{6} = \frac{2}{3}$ OR 66.7%

2. P(rolling a 1 or rolling a number less than 3)

$\frac{1}{6} + \frac{2}{6} - \frac{1}{6} = \frac{1}{3}$ OR 33.3%

3. P(flipping a head or rolling an even number)

$\frac{1}{2} + \frac{3}{6} - \left(\frac{1}{2} \cdot \frac{3}{6}\right) = \frac{3}{4}$ OR 75%

'AND'

4. A store owns 30% red shirts, 20% blue shirts, 40% green shirts and 10% yellow shirts. What is the probability that a customer chose a red or yellow shirt?

30% + 10% = 40%

5. P(Picking a Club or a Heart)

$\frac{13}{52} + \frac{13}{52} = \frac{1}{2}$ OR 50%

6. P(Picking a Queen or Face Card) {K, Q, J}·4

$\frac{4}{52} + \frac{12}{52} - \frac{4}{52} = \frac{3}{13}$ OR 23.1%

7. P(not rolling a 4 or picking a red 6 out of a standard deck)

$\frac{5}{6} + \frac{2}{52} - \left(\frac{5}{6} \cdot \frac{2}{52}\right) \rightarrow \frac{131}{156}$ OR 84%

'AND'

8. Of the 550 people who came into the Italian deli on Friday, 220 bought subs and 182 used cash. Half of the people who bought subs used cash. What is the probability that a customer bought a sub or used cash?

$\frac{220}{550} + \frac{182}{550} - \frac{110}{550} = \frac{146}{275}$ OR 53.1%

'OR'

9. P(drawing a 2 U drawing an odd number)

{3, 5, 7, 9} • 4

$\frac{4}{52} + \frac{16}{52} = \frac{5}{13}$ OR 38.5%

10. P(drawing a King U drawing a red card)

$\frac{4}{52} + \frac{26}{52} - \frac{2}{52} = \frac{7}{13}$ OR 53.8%

Classwork:

Complete the classwork about 'OR' probability.

Take out your EOC packet to start going over the problems.

HW: Finish your classwork and study for the EOC