

## Ch 2.7 Probability of compound events

Compound Event: 2 or more events

Mutually exclusive: events can't occur at the same time.

Example of mutually exclusive) P(king or a 4): a king and a 4 are two different cards

Not mutually exclusive) P(heart or a king): you can get a king of hearts

Formula:  $P(A \text{ or } B) = P(A) + P(B) - P(A \text{ and } B)$

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Ex1a) P(king or heart)

Ex 1b) P(ace or spade)

Ex1c) P(4 or king)

Ex 1d) P(heart or face card)

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Try)

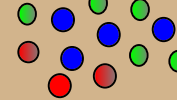
1) P(queen or a spade)

2) P (7 or ace)

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$$P(A \text{ and } B) = P(A) \times P(B)$$

Ex2a) Suppose you have a bag of marbles:  
3 Red, 5 Green, and 4 Blue.



P (draw 2 marbles with one red and the second blue with out replacing the first marble)=

P( draw a green and red marble with replacing the first)

P(draw 2 blue marbles with out replacing the first?)

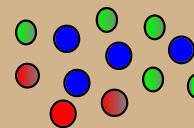
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Ex2c) A teacher must select 2 students for a conference. The teacher randomly selects from 3 freshman, 2 sophomores, 4 juniors, and 4 seniors. What is the probability that a junior and senior are chosen?

Ex2d) If you are taking T/F tests what is the probability you guess correctly on 4 of those questions? hint P(1st correct & 2nd correct & 3rd correct & 4th corect)

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TRY) Suppose you have a bag of marbles:  
3 Red, 5 Green, and 4 Blue.



3) P (red and blue marble) if the first one is replaced?

4) P(2 green marbles) and the first is not replaced?

5) P(red or green marble)?

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