

1) Suppose you randomly draw a single card from a standard deck of cards.

- a) What's the probability you will draw a six of diamonds?
- b) What's the probability you will draw a club?
- c) What's the probability you will draw a face card?
- d) What's the probability you will draw a red card?

2) Suppose you randomly draw two cards from a standard deck of playing cards. What's the probability of drawing a four of clubs, and then drawing a seven of hearts?

With replacement

Without replacement

3) You randomly draw two cards from a standard deck of playing cards. What's the probability of drawing two black cards?

With replacement

Without replacement

4) A bag contains 7 blue marbles, 3 green marbles, and 5 yellow marbles. Suppose you draw two marbles at random. What is the probability that you draw:

- a) a blue marble, then a green marble?

With replacement

Without replacement

- b) two yellow marbles?

With replacement

Without replacement

- c) a blue marble and a green marble *in any order*? (Careful, this one's tricky.)

With replacement

Without replacement

5) Out of a group of 40 students, 14 are taking English, 29 are taking Chemistry, and 5 are taking both English and Chemistry.

a) Draw a Venn diagram to represent this situation.

b) How many students are in neither class? _____

c) What is the probability that a randomly-chosen student from this group is taking only the Chemistry class?

6) A survey of students at Auburn Hills High School revealed that 39% had a laptop computer, 54% had a smartphone, and 23% had both a laptop and a smartphone. What is the probability that a randomly selected student from Auburn Hills has:

a) A smartphone but no laptop?

b) A smartphone or a laptop but not both?

c) Neither a smartphone nor a laptop?

(Hint: Draw a Venn diagram and assume the total number of students at Auburn Hills is 100.)