

HW 9.1

1. Which of these numbers cannot be a probability? (You may circle more than one)

a) -0.00001

c) 1.001

e) 1

b) 0.5

d) 0

f) 20%

2. Two dice are rolled, find the probability that the sum is

a) equal to 1





















































b) equal to 4

c) less than 13

d) greater than or equal to 9

3. A card is drawn at random from a deck of cards. Find the probability of ...
(Use the image of deck of cards below, if needed)

Example set of 52 poker playing cards

Suit	Ace	2	3	4	5	6	7	8	9	10	Jack	Queen	King
Clubs													
Diamonds													
Hearts													
Spades													

a) ...getting a king of heart

b) ...getting a diamond

c) ...getting a 2

HW 9.2

- 1) A technology group wants to determine if bringing a laptop on a trip that involves flying is related to people on business trips. Data for 1000 random passengers at an airport was collected and summarized in the table below.

	Laptop	No laptop
Traveling for business	236	274
Not traveling for business	93	397

- a) What is the probability of traveling with a laptop if you are traveling for business?
- b) Does there appear to be an association between bringing a laptop on a trip that involves flying and traveling for business?

9-69

A survey of local car dealers revealed that 64% of all cars sold last month had USB ports for an iPod, 28% had alarm systems, and 22% had both USB ports for an iPod and alarm systems.

- a) What is the probability that a car selected at random has neither a USB port for an iPod nor an alarm system?
- b) What is the probability that the car ONLY has a USB port for an iPod?
- c) Is having a USB port for an iPod and an alarm system disjoint (mutually exclusive) events?
- d) Is having a USB port for an iPod associated with having an alarm system?

HW 9.3 Due 5/16 or 5/17

1.

An insurance company wants to charge a higher premium to drivers of red cars because they believe they get more speeding tickets. A research company collected the following data to investigate their claim. Use the data below to decide if the insurance company should charge a higher premium to drivers of red cars.

Total cars: 20,000

Red cars: 348

Total speeding tickets: 507

Speeding tickets issued to red cars: 89

2.

Parents keep telling their teens to “turn down the music” or “turn off the computer” when studying. But teens insist that these “distraction” actually help them study better! In order to put this argument to rest, a psychologist studied whether subjects were able to memorize 20 index cards while listening to loud music or studying in silence. The sixty subjects had these results:

	Able to memorize	Not able to memorize
Loud music	9	36
Silence	3	12

a) What is the probability that a randomly chosen subject is able to memorize the index cards?

b) What is the probability that a music listener memorizes the index cards?

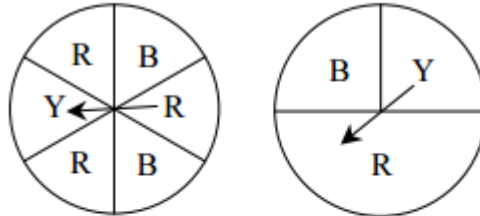
c) Is your ability to memorize independent of listening to loud music?

HW 9.4 Due 5/18 or 5/19

Reminder : If events are ***independent*** then $P(A \text{ and } B) = P(A) * P(B)$

For each question use an area model or a tree diagram to compute the desired probability.

For problems 1-3 use the spinners at right



1. If each spinner is spun once, what is the probability that both spinners show blue?
2. If each spinner is spun once, what is the probability that both spinners show the same color?
3. If each spinner is spun once, what is the probability of getting a red-blue combination?
- 4.

At East College, 28.8% of students are in the freshman class, 25% are sophomores, 25% are juniors, and the rest are seniors. 18% of students are in the performing arts, regardless of their class standing.

- a) If there are 27,000 undergraduates at the school, how many freshmen do you expect to be in performing arts?
- b) If a student is in the performing arts, what is the probability they are a senior?
- c) Is being in performing arts independent of your class standing?