

MAT 118, Chapter 16 Sample Questions, Probability
Chapter 16 exam is included in final
Wed Dec 11, 8:30pm-11pm, Lgt Eng 102 (usual room)

- (1) Widgets Incorporated is planning its annual convention next year and is considering several places. The possible cities and the probability of choosing each one is given in the table:

New York	Boston	Miami	Chicago	Seattle	Los Angeles	London	Paris
.2	.05	.15	.05	.1	.2	.15	.1

What is the probability the conference will be held in the Europe?

- (a) .25
(b) .3
(c) .5
(d) .75
(e) .8
(f) none of these
- (2) If you roll two fair dice, what is the probability that the sum of the dice will be 12?
(a) $1/36$
(b) $1/12$
(c) $1/6$
(d) $1/4$
(e) $1/3$
(f) none of these
- (3) If we toss 5 fair coins, what is the size of the sample space?
(a) 2
(b) 4
(c) 8
(d) 16
(e) 32
(f) none of these
- (4) In the cafeteria you can have soup or salad as an appetizer; chicken, steak, fish or lasagna as a main course and either pie, ice cream or a brownie for dessert. Assuming you must choose something for each course, how many different meals are available?
(a) 9
(b) 12
(c) 20
(d) 24
(e) 48
(f) none of these

- (5) If you roll two fair dice, what is the probability of the sum being even?
(a) $1/2$
(b) $1/4$
(c) $5/8$
(d) $3/8$
(e) $7/16$
(f) none of these
- (6) If you roll two fair dice, what is the probability of the sum being 7?
(a) $1/2$
(b) $1/4$
(c) $1/6$
(d) $1/8$
(e) $7/36$
(f) none of these
- (7) How many ways can we fill a vase with six roses, if we have three colors (pink, red, white) to choose from (order does not matter and we may use 1,2 or 3 different colors)?
(a) 24
(b) 60
(c) 63
(d) 90
(e) 120
(f) 28
- (8) Six men are standing in line and two of them (distinct) are chosen at random. What is the probability that these two are standing next to each other?
(a) $1/6$
(b) $1/5$
(c) $1/4$
(d) $1/3$
(e) $1/2$
(f) none of these
- (9) The Ice Cream Shoppe has ten flavors and want to order a three scoop sundae. If each of your three scoops has to be a different flavor, how many different combinations can you choose between (order doesn't matter, e.g. vanilla-peach-cherry is the same as cherry-vanilla-peach).
(a) 27
(b) 60
(c) 100
(d) 120
(e) 720
(f) none of these

- (10) Suppose in the previous problem, you are also allowed to repeat flavors (e.g. vanilla-vanilla-chocolate and peach-peach-peach are both OK). How many different combinations are there to choose between?
- (a) 60
 - (b) 120
 - (c) 220
 - (d) 240
 - (e) 720
 - (f) none of these
- (11) In a three way horse race there are 1:2 odds on the first horse and 1:3 odds on the second. Which horse is the favorite to win?
- (a) The first horse
 - (b) The second horse
 - (c) The third horse
 - (d) The first and third have the same odds
 - (e) The second and third have the same odds
- (12) If you flip a fair coin 25 times, what is the chance of getting the same number of heads as tails?
- (a) $1/256$
 - (b) $1/64$
 - (c) $1/32$
 - (d) $1/16$
 - (e) $1/8$
 - (f) zero