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:

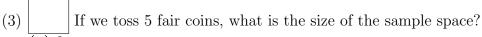
| New York | Boston | Miami | Chicago | Seattle | Los Angeles | London | Paris |
|----------|--------|-------|---------|---------|-------------|--------|-------|
| .2 | .05 | .15 | .05 | .1 | .2 | .15 | .1 |

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 | ı roll | two | fair | dice, | what | is | the p | orobabi | ility | 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



- (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. |
| | Assun | ning you must choose something for each course, how many different meals are |
| | availa | ble? |

- **(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 |
| | (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 part to each other? |
| | 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 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 |