

## Honors Statistics

### 3.2 – 3.3 Review

Provide an appropriate response.

- 1) A single six-sided die is rolled. Find the probability of rolling a number less than 3.
- 2) A study of 1000 randomly selected flights of a major airline showed that 782 of the flights arrived on time. What is the probability of a flight arriving on time?
- 3) If an individual is selected at random, what is the probability that he or she has a birthday in July? Ignore leap years.
- 4) A question has five multiple-choice answers. Find the probability of guessing an incorrect answer.
- 5) The distribution of Master's degrees conferred by a university is listed in the table.

Major	Frequency
Mathematics	216
English	207
Engineering	86
Business	176
Education	222

Find the probability of randomly choosing a person graduating with a Master's degree who did not major in Education. Round your answer to three decimal places.

- 6) Identify the sample space of the probability experiment: determining the children's gender for a family of three children (Use B for boy and G for girl.)
- 7) Identify the sample space of the probability experiment: answering a multiple choice question with A, B, C, and D as the possible answers
- 8) The data in the table represent the number of consumer complaints against major U.S. airlines. If one complaint from the table is randomly selected, find the probability that it was filed against Northwest Airlines.

Airline	Number of Complaints
United	1172
Northwest	765
Continental	563

- 9) The  $P(A) = \frac{3}{5}$ . Find the odds of winning an A.
- 10) At the local racetrack, the favorite in a race has odds 3:2 of winning. What is the probability that the favorite wins the race?

11) Rank the probabilities of 10%,  $\frac{1}{5}$ , and 0.06 from the most likely to occur to the least likely to occur.

12) Which of the following cannot be a probability?

- A)  $\frac{4}{3}$                       B) 1                      C) 0.0002                      D) 85%

13) Which of the following cannot be a probability?

- A) 0                      B) -87                      C) 0.001                      D)  $\frac{\sqrt{5}}{3}$

14) Decide if the events A and B are mutually exclusive or not mutually exclusive. A person is selected at random.

A: Their birthday is in the fall.

B: Their birthday is in October.

15) One hundred people were asked, "Do you favor the death penalty?" Of the 33 that answered "yes" to the question, 14 were male. Of the 67 that answered "no" to the question, six were male. If one person is selected at random, what is the probability that this person answered "yes" or was a male?

16) The table lists the smoking habits of a group of college students.

Sex	Non-smoker	Regular Smoker	Heavy Smoker	Total
Man	135	41	5	181
Woman	187	21	12	220
Total	322	62	17	401

If a student is chosen at random, find the probability of getting someone who is a man or a woman. Round your answer to three decimal places.

17) The table lists the smoking habits of a group of college students.

Sex	Non-smoker	Regular Smoker	Heavy Smoker	Total
Man	135	46	5	186
Woman	187	21	11	219
Total	322	67	16	405

If a student is chosen at random, find the probability of getting someone who is a regular or heavy smoker. Round your answer to three decimal places.

18) Decide if the events A and B are mutually exclusive or not mutually exclusive. A card is drawn from a standard deck of 52 playing cards.

A: The result is a 7.

B: The result is a jack.

## Answer Key

Testname: STATREV3.2AND3.3

1) 0.333

2)  $\frac{391}{500}$

3)  $\frac{31}{365}$

4)  $\frac{4}{5}$

5) Let E = Master's degree in Education.

$$P(E) = \frac{222}{907}. P(E') = 1 - P(E) = \frac{685}{907} = 0.755$$

6) (BBB), (BBG), (BGB), (GBB), (BGG), (GBG), (GGB), (GGG)

7) (A, B, C, D)

8)  $\frac{765}{2500}$

9) 3:2

10) 0.6

11)  $\frac{1}{5}$ , 10%, 0.06

12) A

13) B

14) not mutually exclusive

15) 0.39

16) 1

17) 0.205

18) mutually exclusive