ICM – Review of Lessons 7.1, 7.2, 7.3 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A coin is tossed 3 times and the result is recorded.

A) List an appropriate sample space for this experiment.

B) List the event of at least 2 heads

2. An experiment consists of asking people their party affiliation (Democratic (*D*) or Republican (*R*)) and their favorite color (red (*r*), blue (*b*) or green (*g*)). List the simple events associated with this experiment.

3. Let S = {s1, s2, s3, s4, s5} be the same space associated with an experiment having the following probability distribution.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Outcome | {s1} | {s2} | {s3} | {s4} | {s5} |
| Probability | 0.2 | 0.3 | 0.4 | .03 | .07 |

If A = { s1, s2} and B = {s2, s3, s4}, find

A. P(A)

B. P(B)

C. P(A ∪ B)

D. P(Ac)

E. P(S)

4. A study of American households indicates that 25% own one TV, 57% own two TVs, and 9% own three or more TVs. Find the probability that a household selected at random does not own a TV.

5. A used car dealer has 150 used cars on his lot. The dealer knows that 30 of the cars are defective. If one of the 150 cars is selected at random, what is the probability that it is defective?

6. Fifty people were asked their favorite color, resulting in the data in the following table. Find the probability distribution associated with the data given below.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Color | Blue | Red | Green | Yellow | Purple |
| Frequency | 14 | 22 | 3 | 4 | 7 |
| Probability |  |  |  |  |  |

7. An experiment consists of selecting a card at random from a standard 52-card deck.

**A.** Find the probability that the card is a queen.

**B.** Find the probability that the card is black.

**C.** Find the probability that the card is a queen or black.

**8.** In a survey of 150 households, the following information was obtained:

50 own desktop computers.

100 own laptop computers.

20 own both desktop and laptop computers.

Find the probability that a household selected at random owns…

1. Only laptop computers
2. Neither a laptop nor a desktop