

Name: \_\_\_\_\_ Date: \_\_\_\_\_

**Elementary Statistics**

**HW 4.2 part 1**

1. Weather.com indicated that there was a 20% chance of rain for the author's home region. Based on that report, which of the following is the most reasonable interpretation? \_\_\_\_\_

- a.  $1/5$  of the author's region will get rain today
- b. In the author's region, it will rain for  $1/5$  of the day.
- c. In the author's region, there is a  $1/5$  probability that it will rain at some point during the day.

2. Circle the following values that are NOT probabilities?

|           |           |       |      |       |
|-----------|-----------|-------|------|-------|
| 5:2       | $3/7$     | $7/3$ | -0.9 | 0.123 |
| $123/456$ | $456/123$ | 0     | 1    |       |

3. "Who was the 14<sup>th</sup> president of the United States: Taylor, Fillmore, Pierce, or Buchanan?"

If you make a random guess for the answer to that question, what is the probability that your answer is the correct answer (Pierce)?

4. You roll a single die. What is the probability that the outcome is 7?

**For questions 5-7, express the indicated degree of likelihood as a probability value between 0 and 1:**

5. Weather.com indicated that there is a 60% chance of snow in the region.

6. When rolling a pair of dice at the Bellagio Casino in Las Vegas, there is 1 chance in 36 that the outcome is a 12.

7. Benjamin Franklin said that death is a certainty of life.

8. The following table describes how many males and females are left handed and right handed out of a random sample of 121 people.

|        | Handed |       |
|--------|--------|-------|
|        | Left   | Right |
| Female | 7      | 46    |
| Male   | 5      | 63    |

- Find the probability of selecting a male from this sample.
- Find the probability of selecting a female from this sample.
- Find the probability of selecting a person from this sample that is left handed.
- Find the probability of selecting a person from this sample that is right handed.

9. The Microsort's YSORT gender-selection technique is designed to increase the likelihood that a baby will be a boy. In a clinical trial of this technique, 291 births consisted of 239 baby boys and 52 baby girls. Based on these results, what is the probability of a boy born to a couple using Microsort's YSORT gender selection method? Does it appear that this technique is effective in increasing the likelihood that a baby will be a boy?

10. When a couple has three children, we can assume that there are 8 possible outcomes that are equally likely: GGG, GGB, GBG, GBB, BBB, BBG, BGB, BGG

- Find the probability that if a couple has 3 children, there is exactly one girl.
- Find the probability that if a couple has 3 children, there are exactly two girls.