Homework Practice

Theoretical and Experimental Probability

1. A number cube is rolled 24 times and lands on 2 four times and on 6 three times.

    a. Find the experimental probability of landing on a 2. $\frac{1}{6}$

    b. Find the experimental probability of *not* landing on a 6. $\frac{7}{8}$

    c. Compare the experimental probability you found in part a to its theoretical probability.   **The theoretical probability of landing on a 2, $\frac{1}{6}$, is the same as the experimental probability.**

    d. Compare the experimental probability you found in part b to its theoretical probability.   **The theoretical probability of *not* landing on a 6, $\frac{5}{6}$, is fairly close to the experimental probability.**

2. ENTERTAINMENT Use the results of the survey in the table shown.

    a. What is the probability that someone in the survey considered reading books or surfing the Internet as the best entertainment value? Write the probability as a fraction. $\frac{31}{100}$

Best Entertainment Value	
Type of Entertainment	**Percent**
Playing Interactive Games	48
Reading Books	22
Renting Movies	10
Going to Movie Theaters	10
Surfing the Internet	9
Watching Television	1

    b. Out of 500 people surveyed, how many would you expect considered reading books or surfing the Internet as the best entertainment value?   **155**

    c. Out of 300 people surveyed, is it reasonable to expect that 30 considered watching television as the best entertainment value? Why or why not?   **No; 1% of 300 = 3, not 30**

3. A spinner marked with four sections blue, green, yellow, and red was spun 100 times. The results are shown in the table.

    a. Find the experimental probability of landing on green. $\frac{1}{10}$

Section	Frequency
Blue	14
Green	10
Yellow	8
Red	68

    b. Find the experimental probability of landing on red. $\frac{17}{25}$

    c. If the spinner is spun 50 more times, how many of these times would you expect the pointer to land on blue?   **7**