Name: Key Date: Hour:

Algebra 1
WS PC #2 Unit 5 Review

Theoretical and Experimental Probability

1. A cooler contains 18 cans: 9 of lemonade, 3 of iced tea, and 6 of cola. Dee selects a can without looking. What is the probability that Dee selects iced tea?

$\frac{3}{18} = \boxed{\frac{1}{6}}$

2. A number cube is rolled 50 times, and a 2 is rolled 12 times. Find the experimental probability of not rolling a 2.

$1 - \frac{12}{50} = \frac{38}{50} = \boxed{\frac{19}{25}}$

3. There are 13 green marbles, 8 red marbles, and 12 white marbles in a bag. What is the probability of not selecting a green marble?

$1 - P(G) = 1 - \frac{13}{33} = \boxed{\frac{20}{33}}$

Independent and Dependent Events

4. A bag contains 25 checkers – 15 red and 10 black. Find the probability.
   a. selecting a red checker, then a black, without replacement

$\frac{15}{25} \cdot \frac{10}{24} = \boxed{\frac{1}{4}}$

   b. selecting a red checker then a black, with replacement

$\frac{15}{25} \cdot \frac{10}{25} = \boxed{\frac{6}{25}}$

5. You have a standard deck of 52 cards. Find the probability.
   a. A nine, then a face card, then an ace is drawn, with replacement

$\frac{4}{52} \cdot \frac{12}{52} \cdot \frac{4}{52} = \boxed{\frac{3}{2197}}$

   b. A red, then an eight is drawn, without replacement

$\frac{26}{52} \cdot \frac{3}{51} = \boxed{\frac{1}{34}}$

   c. A diamond, then a seven is drawn, without replacement

$\frac{13}{52} \cdot \frac{4}{51} = \boxed{\frac{1}{51}}$

Compound Events

6. Find each probability.
   a. Rolling a 5 or an odd number on a numbered cube

$$\frac{1}{6} + \frac{3}{6} - \frac{1}{6} = \frac{3}{6} = \boxed{\frac{1}{2}}$$

   b. Lincoln High School has 98 teachers. Of the 42 female teachers, 8 teach math. One – seventh of all the teachers teach math. What is the probability that a teacher is a man or does not teach math?

$$P(M) + P(\text{no math}) - P(M \text{ (no math)})$$

$$\frac{56 + 84 - 50}{98} = \boxed{\frac{45}{49}}$$

	F	M	T
Math	8	6	14
No Math	34	50	84
T	42	56	98

   c. A card is drawn from a deck of 52. What is the probability that the card is a heart or a 6?

$$P(H) + P(6) - P(6H)$$

$$\frac{13 + 4 - 1}{52} = \frac{16}{52} = \boxed{\frac{4}{13}}$$

Data Display

Determine if each data set is quantitative or qualitative.

7. Heights of plants in an experiment

   Quantitative

8. License plates of cars on the road

   Qualitative

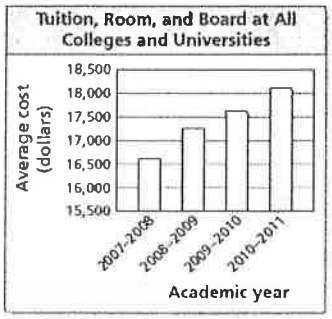
9. Types of flowers in a bouquet

   Qualitative

10. Number of hours worked each week

    Quantitative

11. Describe how each graph is misleading.



Vert. axis starts @ 15,500 instead of 0

Vert. axis scale not equal increments