Pre-Algebra Homework #8

1) If you pay $920 in rent and your landlord increases the rent by 15%, what is your new rent?

2) If your real estate commission is $12,000 and you earn a 2.5% commission rate, how much did the house sell for?

3) If your grade on your second math test is a 96 and the grade on your first test was a 74, find the percent decrease in your grade.

4) If you invest $3,800 in a bank account for 7 years and end up closing the account with a total of $4,731 in it, what was your interest rate?

5) If your heating bill in March is $160 but in April it drops by 5%, how much did you pay for heat in April?

6) Could the probability of any given event occurring be any of the following numbers: 3, – 2, 0.36, $\frac{9}{5}$, 1, 1.478, – 1, $\frac{7}{8}$, 18%, 0, and 125%?

7) What is the theoretical probability of rolling a 3 using a fair, six-sided die?

8) What is the theoretical frequency that can be expected for rolling a 5 using a fair eight-sided die?

9) Matthew rolls a fair, six-sided die eight times and gets the following results on each roll: 5, 2, 2, 1, 6, 4, 3, and 2. Based on Matthew's rolls, what is the experimental probability of rolling a 2? What is the difference between the theoretical probability of rolling a 2 and Matthew's experimental probability?

10) Could the probability of any given event occurring be any of the following numbers: 4, 0.78, $\frac{2}{5}$ 1, 200%, 0, and $\frac{11}{3}$?

11) What is the theoretical probability of rolling a number that's divisible by 2 using a fair, twenty-sided die?

12) What is the theoretical frequency that can be expected for rolling a sum of 4 or 9 using two fair six-sided die?

13) John rolls a fair, twelve-sided die 15 times and gets the following results on each roll: 7, 3, 10, 7, 9, 7, 11, 7, 2, 11, 12, 10, 8, 12, and 6. Based on John's rolls, what is the experimental probability of rolling a 7? What is the difference between the theoretical probability of rolling a 7 and John's experimental probability?

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14) Could the probability of any given event occurring be any of the following numbers: 23%, – 4%, 0.36%, $\frac{9}{5}\%$, 100%, $\frac{3}{5}\%$?

15) What is the theoretical probability of rolling a sum of 2 or 8 using a two fair, six-sided die?

16) What is the theoretical frequency that can be expected for rolling a multiple of 5 using a fair 60-sided die?

17) Milo rolls a fair, six-sided die 20 times and gets the following results on each roll: 2, 1, 6, 4, 3, 4, 6, 2, 1, 2, 6, 1, 4, 1, 6, 2, 3, 4, 3 and 1. Based on Milo's rolls, what is the experimental probability of rolling a 1? What is the difference between the theoretical probability of rolling a 1 and Milo's experimental probability?

18) What is the theoretical probability of rolling a sum of 6 or 7 using a two fair, six-sided die?

19) What is the theoretical frequency that can be expected for rolling a multiple of 2 and 3 using a fair 30-sided die?

20) Caleb rolls a fair, six-sided die 50 times and gets the following results on each roll: 2, 5, 1, 4, 6, 3, 4, 2, 3, 3, 4, 2, 6, 1, 2, 6, 1, 2, 2, 6, 6, 1, 4, 4, 1, 6, 1, 2, 5, 3, 2, 4, 1, 3, 4, 6, 1, 4, 5, 3, 1, 3, 4, 5, 2, 4, 6, 4, 2, and 1. Based on Caleb's rolls, what is the experimental probability of rolling a 6? What is the difference between the theoretical probability of rolling a 6 and Caleb's experimental probability?