

Pre- Calc. May/June Brain Teasers

Due May 30

1) In a state lottery, five numbers are randomly chosen from the numbers 1 to 30. If you pick all 5 numbers, you win \$100,000; and if you pick 4 of the 5 numbers, you win \$100. What is the value of a \$1 lottery ticket?

3 points

2) The word ABSTEMIOUS contains 5 vowels A, E, I, O and U in alphabetical order. How many permutations of this word have the vowels in alphabetical order?

3 points

3) Use the internet to research. Write a matrix that gives the number of stories and the heights in meters of the five tallest buildings in the United States.

3 points

4) a. If you go back through ten generations, how many ancestors do you have? Count your parents as the first generation back, your four grandparents as the second generation, and so on. (Assume there are no duplications.)

4 points

4) b. How many generations back must you go in order to have more than one million ancestors?