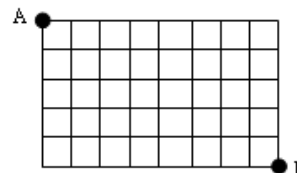


2009 Middlementary Math Bonanza
Probability Test – 4th Grade

1. What is the range of the data set 31, 33, 34, 34, 34, 35, 36, 37, 38, 39, 40?
2. In how many ways can three city council members be elected from a field of nine candidates?
3. When a card is drawn from a standard 52-card deck, what is the probability that it is a black eight?

4. In how many ways can a person travel from point A to point B on the streets shown if they must always travel down or right?



5. In how many ways can the letters in the word “BOOKKEEPER” be arranged?
6. In a three-element data set of distinct integer test scores from 0 to 100 inclusive, the median is 70, the mean is 74, and the range is 18. What is the largest element in the data set?
7. What is the mode of the data set 4, 4, 7, 8, 8, 13, 15, 23, 33, 33, 33, 41, 41?
8. When trying to plan a family reunion for the 79 members of my extended family, 25 can come in June, and 40 can come in August. 45 can come in June and July, 38 can come in July and August, and 45 can come in June and August, while 5 can come in June, July, or August and 11 cannot come in any of those months. How many of them can come in July?
9. The probability that I read a book is $\frac{1}{6}$ and the probability that I watch a movie is $\frac{2}{9}$. If these events are independent, what is the probability that I do neither?
10. A trusted friend draws two marbles from a bag containing five blue and three white marbles, examines them, and tells you that they are not both white. What is the probability that they are both blue?