

# DIGITLE – SAT/ACT

## Puzzle 518 – Table Data and Probability



**Directions:** The first 5 problems have single digits answers. The 6<sup>th</sup> problem has a 5-digit answer (counting leading zeros if present). You have a choice: solve the easier single-digit answer problems or tackle the more difficult 5-digit answer. Once you have done that, attempt to solve the puzzle by entering the following url on your computer, tablet, or phone:

<https://mastermathmentor.com/mmm/digitle.ashx>.

The correct puzzle answer will be the digits of your answer(s) scrambled. Use the following interpretation. You get 6 tries.



**Green :** the digit is in the answer and is in the correct spot.  
**Yellow:** the digit is in the answer but is not in the correct spot.



**Grey :** the digit is not in the answer.

### Single Digit Answers:

1) The table gives the number of cars sold on a Saturday at an auto-mall with multiple dealers. If two people who bought cars are chosen randomly, the probability that both did not purchase Fords is calculated. What is the first digit to the right of the decimal point?

Cars	Number sold
Ford	***
Jaguar	****
Infinity	*****
Kia	**
Lexus	*****

2) Al’s Diner has 6 vegetables on its menu and a customer can choose 3 of them with dinner. Ed’s Diner also has 6 vegetables but a customer can only choose 2. How many more combinations does Al’s have than Ed’s?

3) Four bowlers Al, Bill, Chris, and Don bowl in a league once a week every month. Bill is twice as likely to win as Al and Chris is three times as likely to win as Al. Don is the best bowler and is as likely to win as either Al, Bill, or Chris. Over the 48 matches, how many matches do you expect that Al will win?

4) In an ice cream shop, there are flavors that young Sheldon likes, ones he will tolerate and some he absolutely doesn’t like. The table at the right gives this information. The ice cream shop is adding some new favors. What is the minimum number of flavors it should add so that the probability of Sheldon receiving a flavor at random that he doesn’t dislike is 80%?

Like	Tolerate	Dislike
8	6	5

5) At a country club, the managers want to have enough free club rentals available based on gender and whether people are right or left-handed. They do a survey of its members as shown to the right. A member is chosen at random and the following probabilities are computed.  $a$  = the probability of choosing a right-handed man.  $b$  = the probability of choosing a man given that the member is right-handed and  $c$  = the probability of choosing a right-hander given that the member is a man. If  $a + b - c$  is rounded to 1 decimal place, what is the first digit to the right of the decimal place?

	Men	Women
Right-Hand	50	40
Left-Hand	10	20

### 5-Digit Answer:

6) On a tourist train operation with 85 riders, a passenger is entitled to a bag of pretzels, chips, or nuts. The number of people choosing each is shown in the table to the right. If a passenger is chosen at random after the train ride, the probability that he or she chose the following snacks is computed. Find the one with the highest probability and express the first 5 digits of that probability (for example, if you thought the probability was 0.1462, then your answer is 14620. If you thought the probability was  $\frac{1}{4}$ , then your answer is 25000.)

Pretzels	Chips	Nuts
36	28	11