Problem of the Week

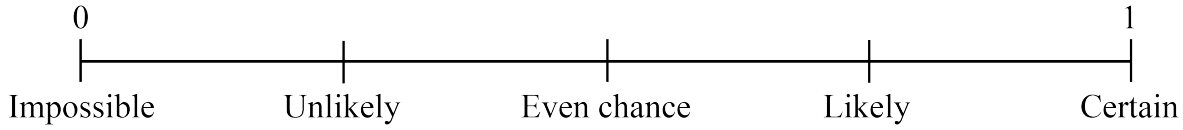
Problem B

On-Base Probabilities

In baseball, OBP stands for On-Base Percentage. It is the number of times the player makes it on base divided by the total number of times they step up to bat, rounded to three decimal places. For 10 players in the MLB, suppose we have the following OBP statistics.

Player	OBP
Jake Bauers	0.357
Vladimir Guerrero	0.500
Ian Happ	0.156
Kyle Schwarber	0.278
Andrew Vaughn	0.267
Alex Call	0.857
Jarren Duran	0.091
Aaron Judge	0.581
Sal Stewart	0.600
Masataka Yoshida	0.571

(a) Order the given OBP data on the probability line below from least likely to get on base to most likely to get on base.



(b) Choose any three of the ten players and answer the questions that follow. If they step up to bat 10 times, how many times would you expect each of these three players to get on base? What about 20 times at bat? 25 times?

(c) What would be a reasonable explanation for the OBP of Jasson Dominguez, a brand new player with an incredible OBP of 1.000?

(d) A new player has an OBP of 0.400 after 10 times at bat, but wants to increase their OBP to 0.550. How many times must they make it on base in their next 10 times at bat?

Theme: Data Management