



Problem of the Week

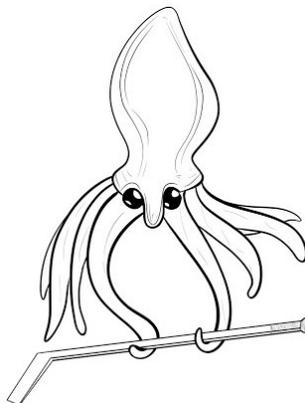
Problem B and Solution

Get Kraken!

Problem

The Seattle Kraken are the newest team to join the National Hockey League. Let's say they determined the colours for their uniforms by picking two choices from the table below. One colour must come from the first column and one colour must come from the second column.

Colour 1	Colour 2
Green	White
Blue	Black
Teal	Silver
	Gold



- List all the possible colour combinations. How many different options do they have?
- What pair of colours would you choose? If the team chooses the colour combination randomly from the colour combination options in part (a), what is the probability that the pair of colours you want gets picked?
- What is the probability that the uniform colours do not include teal, black, or gold?

Solution

- Each of the three colours from the Colour 1 column can be combined with each of the four colours from the Colour 2 column, giving the following possible combinations:
 - Green and White, Green and Black, Green and Silver, and Green and Gold.
 - Blue and White, Blue and Black, Blue and Silver, and Blue and Gold.
 - Teal and White, Teal and Black, Teal and Silver, and Teal and Gold.

Thus, there are $3 \times 4 = 12$ possible combinations of colours.

- Answers will vary due to individual choices. If colours are picked randomly, the probability that the pair of colours you want gets picked is 1 in 12 or $\frac{1}{12}$.
- The probability that the uniform colours do not contain teal, black, or gold is determined by first noting that there are only 4 such combinations: Green and White, Green and Silver, Blue and White, and Blue and Silver.

Thus, there are 4 possible combinations of the remaining colours.

Hence, the probability is $\frac{4}{12}$ or $\frac{1}{3}$.