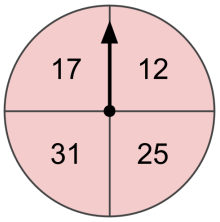
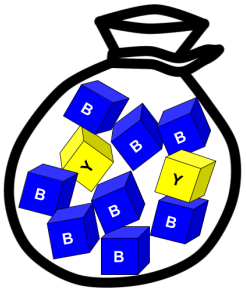
Problem of the Week
Problem A and Solution
Probably

Problem
Think about the probability related to the following situations. Identify each one as *"certain"*, *"likely"*, *"equally likely"*, *"unlikely"*, or *"impossible"*. Justify your answers.

Event	Probability
Given the spinner below, what is the probability the outcome of spinning is an odd number rather than an even number? 	
If today is Thursday, what is the probability that tomorrow is Friday rather than another day of the week?	
If you ask someone to pick a whole number between 1 and 10, what is the probability the number they choose is greater than 8 and less than 5?	
If you flip a fair two-sided coin that has a moose on one side and a canoe on the other side, what is the probability it lands with the moose side up rather than the canoe side up?	
If you pick a cube from the bag below without being able to see inside the bag, what is the probability that the cube you pick is yellow rather than blue? 	

Solution

Given the spinner, it is *likely* that the outcome will be an odd number since there are 3 times as many odd numbers as even numbers on the spinner and it appears each area for a number on the spinner is approximately the same size.

If today is Thursday, it is *certain* that tomorrow is Friday rather than another day of the week. Days of the week have a set sequence and Friday always follows Thursday.

If you ask someone to pick a whole number between 1 and 10, it is *impossible* that the number they choose is greater than 8 and less than 5. Since $5 < 8$, numbers that are less than 5 cannot also be greater than 8 and numbers that are greater than 8 cannot also be less than 5.

If you flip a fair two-sided coin that has a moose on one side and a canoe on the other side it is *equally likely* it lands with the moose side up rather than the canoe side up. Since there are only two sides to the coin, and it is is a fair coin, over time the coin should land on each side approximately the same number of times.

If you pick a cube from the bag, without being able to see inside the bag, it is *unlikely* that the cube you pick is yellow rather than blue. The number of yellow cubes (2) is a much smaller than the number of blue cubes (8) in the bag. If you are unable to see the colours of the cubes, then it is much less likely that you will pick a yellow cube rather than a blue cube randomly from the bag.