**6A Discreet Random Variables (DRVs)**

1. Three fair coins are tossed.
2. Write down all the possible outcomes when the three coins are tossed.

A random variable, $X$, is defined as the number of heads when the three coins are tossed.

1. Write the probability distribution of $X$ as:
2. A table
3. A probability mass function
4. A biased four sided dice with faces numbered 1, 2, 3 and 4 is rolled. The number on the bottom face is modelled as a random variable $x$.

Given that $P\left(X=x\right)=\frac{k}{x}$

1. Find the value of $k$
2. Give the probability distribution of $X$ in table form.
3. Find the Probability that:
4. $X>2$
5. $1<X<4$
6. $X>4$
7. The spinner below is spun until it lands on red, or has been spun 4 times in total. Find the probability distribution of the random variable $S$, the number of times the spinner is spun.