Non Transitive Dice

Nihanika Paul Age 9. 5th September

$P(R|G) = \frac{4}{9}$ $X|Y$ is the event of X winning over Y.

$P(G|B) \frac{4}{9}$ Where $X, Y \in \{R, G, B\}$

$P(B|R) \frac{4}{9}$ $\therefore P(X|Y)$:= the probability of the event $X|Y$

$\Rightarrow P(G|R) = P(\overline{R|G}) = \frac{5}{9}$

and $P(B|G) = P(\overline{G|B}) = \frac{5}{9}$

and $P(R|B) = P(\overline{B|R}) = \frac{5}{9}$

$\therefore$ If Charlie picks red Alison should pick green

" " " green " " " blue

" " " blue " " " red

$\therefore$ It is a better idea to go 2nd because there is always a die which will win over Charlie's with the probability of $\frac{5}{9}$