

Back to Probability

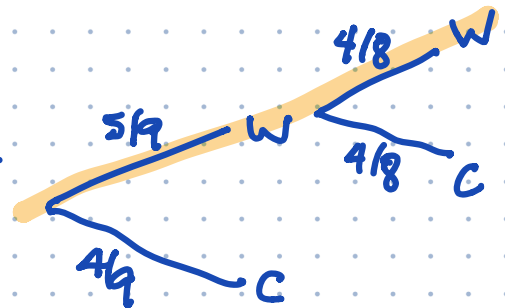
A committee has nine members, five from Whitehorse and four from the communities. There is tension on the committee between the Whitehorse and community members, and claims of bias are being made.

Both the current and former president are from Whitehorse. What is the probability of that happening if all members have an equal chance of becoming president?

$$p = \frac{n}{N} = \frac{5}{9} = 0.5\bar{5}$$

$$p(WW) = (0.5\bar{5})^2 = 0.3086\dots$$

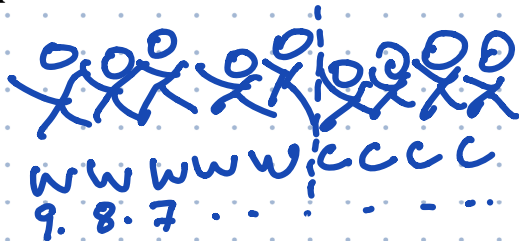
$$p(WW) = \frac{5}{9} \cdot \frac{4}{8} = 0.2\bar{7}$$



A three-member subcommittee is chosen and all three members are from Whitehorse. What is the probability of this happening if all members have an equal chance of being selected?

$$p = \frac{n}{N} = \frac{{5 \choose 3}}{{9 \choose 3}} = \frac{10}{84} = 0.1190\dots$$

The committee members line up for their annual photograph and the two groups are separate. What are the chances of this happening?



$$\frac{5!}{5!} (5! \times 4!) \cdot 2$$

$$p = \frac{n}{N} = \frac{5! \cdot 4! \cdot 2}{9!} = \frac{120 \cdot 24 \cdot 2}{362,880} = \frac{5,760}{362,880} = 0.01587 \approx 1.6\%$$