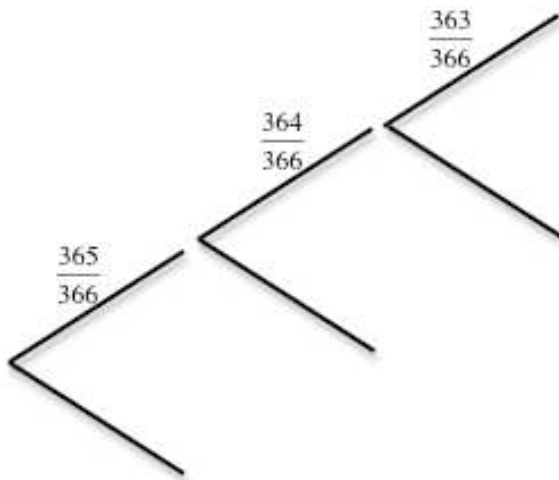


SAME BIRTHDAY



In a group of 23 people there is more than a 50% chance that two will have the same birthday.

Does that surprise you?

Including February 29th, how many different birthdays can there be? Start with 3 people A, B and C. What is the probability that B has a different birthday from A? What is the probability that A and B have different birthdays and C has a different birthday from A and from B?

In a group of 3 people what is the probability that two will have the same birthday? What about a group of 4 people? Or a bigger group?

Can you use the unlabelled tree diagram above and do the calculations to work out the probabilities?

HELP

One of the 'golden rules' of problem solving is to work on simple cases when a problem seems difficult. Learners who find this problem difficult can do the At Least One (n=2) <https://aiminghigh.aimssec.ac.za/years-8-10-at-least-one/> and Same Sweets (n=5) <https://aiminghigh.aimssec.ac.za/years-4-7-same-sweets/> and Same Birth-month (n=12) problems first <https://aiminghigh.aimssec.ac.za/years-8-10-same-birth-month/>.

NEXT

Some learners could work on calculating the answers on a spreadsheet. Alternatively, learners could think of different contexts for posing problems like the Birthday Problem, but for different numbers of possibilities, and they could create and solve their own problems.