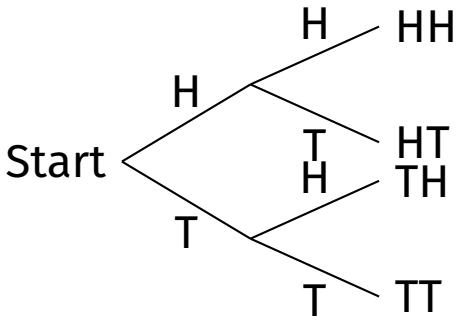
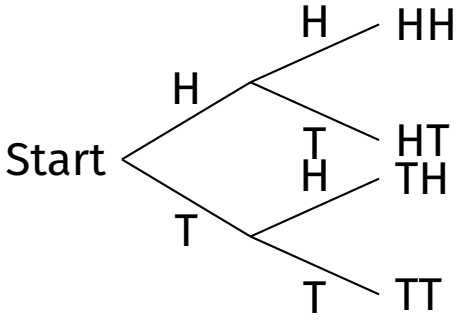
Proficient

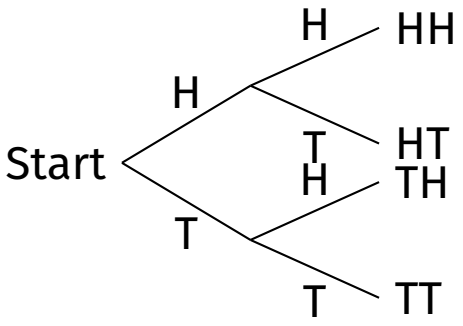
1. Use this tree to list the full sample space for two fair coin tosses.



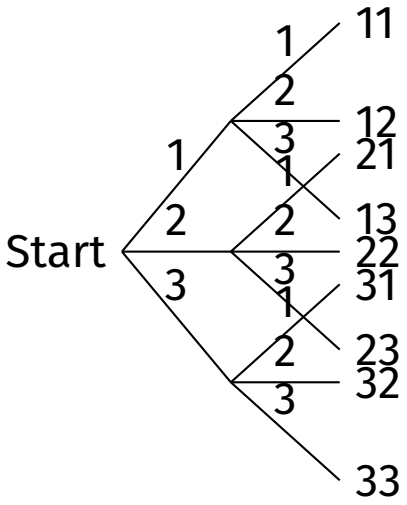
2. Use the tree to find the probability of getting exactly two heads.



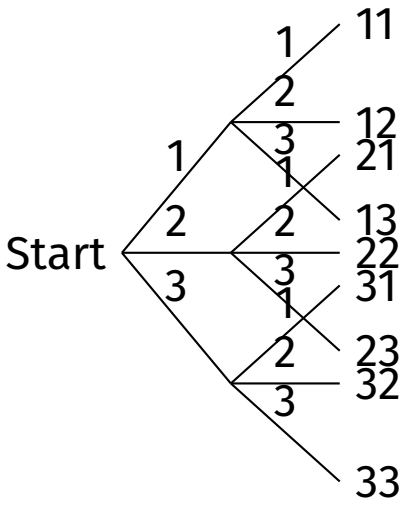
3. Use the tree to find the probability of getting at least one head.



4. Use this tree for a spinner labelled $1, 2, 3$ spun twice. List the outcomes where the total is 4.



5. Use the tree to find the probability that the total is 4.



6. A fair die is rolled twice. What is the probability of getting a 6 then an even number?

7. A fair die is rolled twice. What is the probability that both numbers are odd?

8. A bag has 2 red and 1 blue counter. A counter is picked, replaced, then picked again. What is the probability of red then blue?

9. A bag has 2 red and 1 blue counter. A counter is picked, replaced, then picked again. What is the probability of two blues?

10. A fair coin is tossed twice. What is the probability of getting the same result both times?

11. A fair coin is tossed twice. What is the probability of getting different results?

12. Fill in the blank: for two fair coin tosses, the probability of exactly one head is $\frac{\square}{4}$.

13. Fill in the blank: for two fair die rolls, the probability of getting two odd numbers is $\frac{\square}{36}$.

14. Which is greater: the probability of two heads in two coin tosses or the probability of a 6 then a 6 in two die rolls?

15. Which is smaller: the probability of red then blue from a red-blue spinner spun twice or the probability of two reds?

16. A student says the probability of H then 5 when a coin is tossed and a die is rolled is $\frac{1}{6}$. Are they correct?

17. Explain in one short sentence what a branch on a tree diagram shows.