

IB Statistics and Probability Problem 002

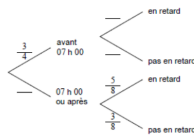
Pablo drives to work.

The probability that he leaves home before 07:00 is $\frac{3}{4}$.

If he leaves home before 07:00, the probability that he is late for work is $\frac{1}{8}$.

If he leaves home at 07:00 or later, the probability that he is late for work is $\frac{5}{8}$.

A. Copy and complete the following tree diagram.



B. Find the probability that Pablo leaves home before 07:00 and is late.

C. Find the probability that Pablo is late for work.

D. Given that Pablo is late for work, find the probability that he left home before 07:00.