1.4 - 4 (c) \( A_i, H_i \) draws

Ace, Hearts in

\( i \) th draw

\[
P(A_2 \cap H_1) = P(A_2 \cap H_1 \cap \Omega A_1) + P(A_2 \cap H_1 \cap \Omega A_i)
\]

\[= P(A_2 \mid H_1 \cap \Omega A_1) P(H_1 \cap \Omega A_1) + P(A_2 \mid H_1 \cap \Omega A_i) P(H_1 \cap \Omega A_i)\]

\[
= \frac{3}{51} \quad \frac{1}{52} + \frac{3+48}{51 \cdot 52} = \frac{1}{52}
\]

Find the probability to draw

A Heart first, then an Ace

(Regular deck of cards, w/o replacement)

The answer is identical as if they were independent