Name: _____   **Student ID:** _____

Consider a group of 500 healthy policyholders. A policyholder may be in one of three states: healthy (h), sick (s), or dead (d). The annual transition probabilities are as follows:

$$
\begin{array}{c}
\begin{array}{ccc} h & s & d \end{array} \\
\begin{array}{c} h \\ s \\ d \end{array}
\begin{pmatrix}
0.85 & 0.10 & 0.05 \\
0.20 & 0.60 & 0.20 \\
0.00 & 0.00 & 1.00
\end{pmatrix}
\end{array}
$$

How many of the 500 healthy policyholders do you expect to be dead within two years?