Class Practice on Probability #2

A box has slips of paper numbered 1, 2, 3, 4, 5. An experiment consists of selecting two pieces of paper. However, the first selection will be replaced into the box before the second selection is made.

a. Construct the sample space.

Let event A = the sum of the two numbers is 5

Let event B = the first selection is a 3

b. List the favorable sample points for A _________________________

c. Determine P(A) =

d. List the favorable sample points for B _________________________

e. Determine P(B) =

f. List the favorable sample points for the event A and B _________________

g. Determine P(A and B) =

h. List the favorable sample points for the event A or B _________________

i. Determine P(A or B) =
a. Construct the sample space.

\[
\begin{array}{cccccc}
11 & 21 & 31 & 41 & 51 \\
12 & 22 & 32 & 42 & 52 \\
13 & 23 & 33 & 43 & 53 \\
14 & 24 & 34 & 44 & 54 \\
15 & 25 & 35 & 45 & 55 \\
\end{array}
\]

Let event A = the sum of the two numbers is 5

Let event B = the first selection is a 3

b. List the favorable sample points for A __14, 23, 32, 41__

c. Determine \( P(A) = \frac{4}{25} \)

d. List the favorable sample points for B __31, 32, 33, 34, 35__

e. Determine \( P(B) = \frac{5}{25} = \frac{1}{5} \)

f. List the favorable sample points for the event A and B __32__

g. Determine \( P(A \text{ and } B) = \frac{1}{25} \)

h. List the favorable sample points for the event A or B __14, 23, 32, 41, 31, 33, 34, 35__

i. Determine \( P(A \text{ or } B) = \frac{8}{25} \)