Name _____   Date _____

Check for Understanding

Determine Compound Probabilities: Investigation 2

1. Roger is trying to log into his public library's website in order to renew a book he checked out. Unfortunately, he forgot his password, so he has to answer a security question to get it reset. The question is, "What are the first and last initials of your kindergarten teacher?" Roger only remembers that both initials are one of the vowels *A*, *E*, *I*, *O*, and *U*. Write the sample space of possible sets of initials in the table below.

2. To help himself remember the answer to his security question, Roger from question 1 is considering different possibilities for the first and last initials of his kindergarten teacher. Match each possibility in the left column with its probability in the right column.

A. the first and last initials are the same   **I.** $\dfrac{3}{5}$

B. neither initial is *O*   **II.** $\dfrac{2}{25}$

C. the initials are *A* and *E* in either order   **III.** $\dfrac{1}{5}$

D. the first initial is neither *E* nor *U*   **IV.** $\dfrac{16}{25}$

E. both initials are *I*   **V.** $\dfrac{4}{5}$

F. the first and last initials are not the same   **VI.** $\dfrac{1}{25}$

3. It has just occurred to Roger from question 1 that the first and/or last initial of his kindergarten teacher also might be *Y*, which is sometimes considered a vowel. How many possible sets of initials are now in the sample space? *Explain your answer*.

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