1. A dog will walk off the green carpet and a cat will walk off the pink carpet. Therefore, a dog and a cat will walk on the teal carpet, and so a cat will walk off the teal carpet (rightmost carpet).

2. It must be the case that a cat walks off the missing carpet since only a cat walking on the rightmost (pink) carpet will cause a dog to walk off. What animals walk on the missing carpet? At the top-left, a cat walks off the pink carpet and so two cats walk on the teal carpet. This means one cat walks off the teal carpet and approaches the missing carpet. At the bottom-left, a dog walks off the green carpet and approaches the missing carpet. So a cat and a dog walk on the missing carpet and a cat walks off. This can only happen if the missing carpet is teal.

3. From top to bottom the animals are cat, dog, dog, and dog.
   One way to obtain this answer is to try all possible combinations of animals until you find one that results in a cat walking off the rightmost carpet. How many combinations would you have to try? Since there are 4 spots for animals, and each spot could be a cat or a dog, there are $2^4 = 16$ combinations. Testing each combination in turn may not be the best way to proceed.
   An alternative way is to work backwards. Imagine that you have a video of the animals walking across the carpets, and you play the video in reverse. Here is a series of images that show the cat on the right moving backwards over the carpets.

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? ? ? ?
? ? ? ?
? ? ? ?
\textit{The only way a cat can walk off a pink carpet is if a dog walks on.}

? ? ? ?
? ? ? ?
\textit{The only way a dog can walk off a teal carpet is if two dogs walk on.}

? ? ? ?
? ? ? ?
\textit{The only way a dog can walk off a pink carpet is if a cat walks on.}
\textbf{AND}
\textit{The only way a dog can walk off a teal carpet is if two dogs walk on.}
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The only way a cat can walk off a green carpet is if two cats walk on.

The only way a cat can walk off a pink carpet is if a dog walks on.

Therefore, this shows the only option for the starting animals.

4. The given arrangement with the teal carpet

is equivalent to the following arrangement that uses no teal carpets:

You may have found a different arrangement than this that also works.