Predicate logic translation exercise

Consider these proposed translations of the assertion, "all walkways are within rooms."

1. (: x is a walkway; : x is a room; : x is within y).
2. (: x is a walkway; : x is a room; : x is within y).
3. (: x is a walkway; : x is a room; : x is within y).
4. (: x is a walkway; : x is a room; : x is within y).
5. (: x is a walkway; : x is a room; : x is within y).

### Question 1: translation i vs. translation iii

Explain the difference between translations i and iii in your own words. Give an example of a situation that would falsify translation iii, but not translation i.

### Question 2: translation iii vs. translation iv

Explain the difference between translations iv and iii in your own words. Give an example of a situation that would falsify translation iv, but not translation iii.

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### Question 3: translation i vs. translation v

Explain the difference between translations i and v in your own words. Give an example of a situation that would falsify translation v, but not translation i.

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### Question 4: translation 1 vs. translation ii

Explain the difference between translations i and ii in your own words. Give an example of a situation that would falsify translation i, but not translation ii.

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### Question 5: Best translations

Which of these five translations are plausible on some understanding of the assertion, "all walkways are within rooms." For each translation that is *not* plausible, explain in one sentence why it doesn't capture any meaning of the assertion.