►. Define the sets $S_3$ and $S_6$ by

$$S_3 = \{x \in \mathbb{R} \colon x = 3k_x \text{ for some } k_x \in \mathbb{N}\}$$
$$S_6 = \{y \in \mathbb{R} \colon y = 6k_y \text{ for some } k_y \in \mathbb{N}\}.$$

⟨FYI: $S_3$ and $S_6$ are given in set builder notation.⟩

1. Prove that $S_6 \subseteq S_3$.
2. Is $S_6 = S_3$? Justify your answer.

⟨If true, prove. If false, give a counterexample (and explain why your example is indeed a counterexample).⟩

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