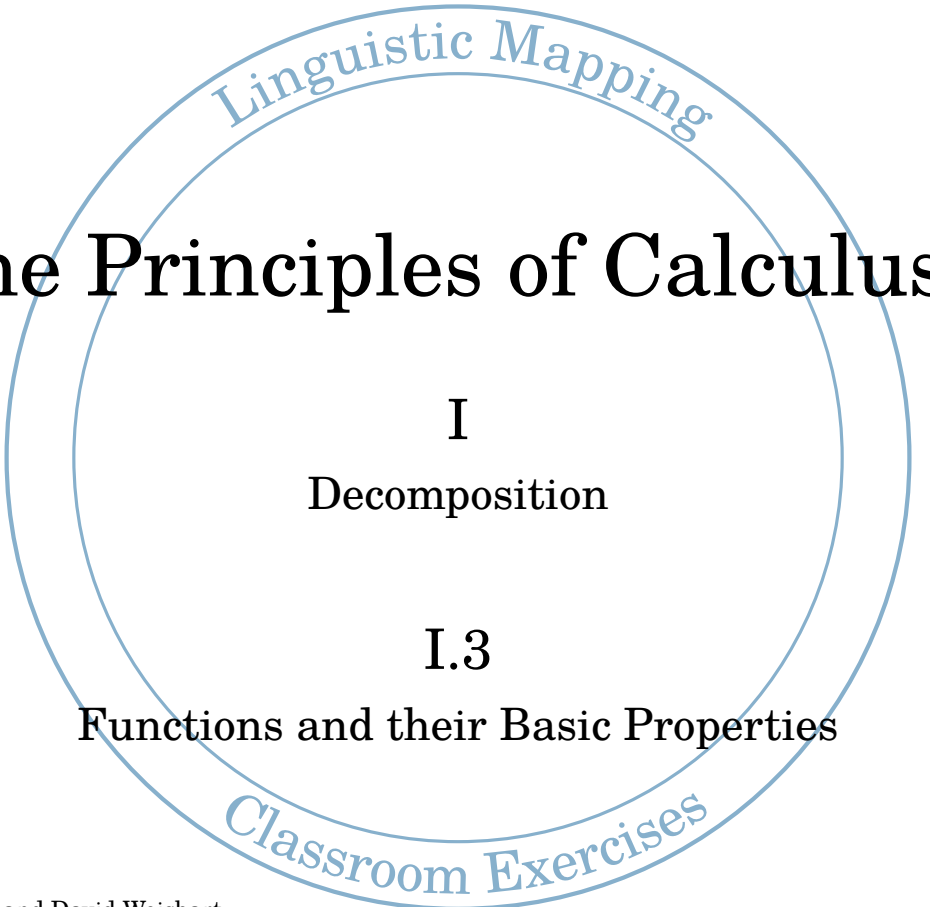

The Principles of Calculus I

I

Decomposition

I.3

Functions and their Basic Properties

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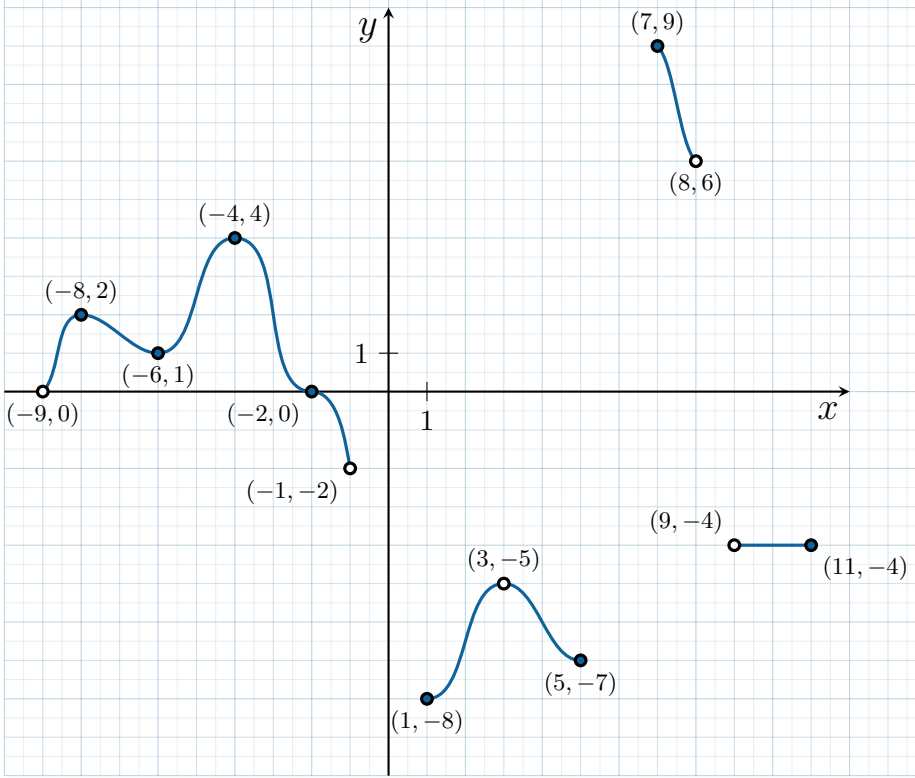
Exercise 1

Identify the domain and range of the function f that is given by this sketch:



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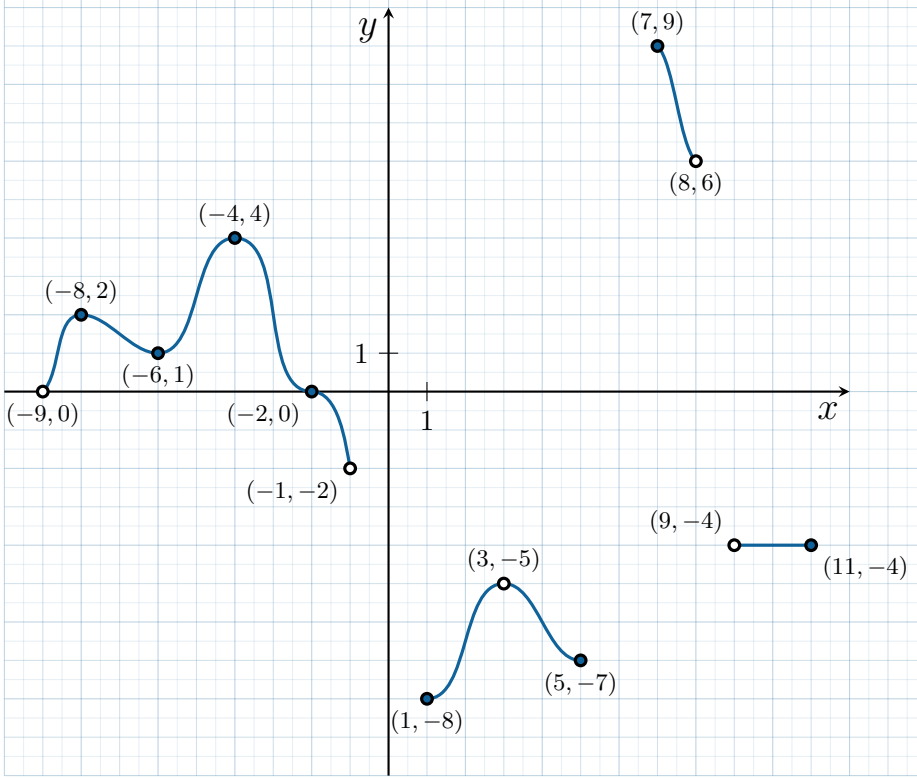
Exercise 2

Identify all maximal intervals on which the function f is positive, negative, non-positive, and non-negative, where f is given by this sketch:



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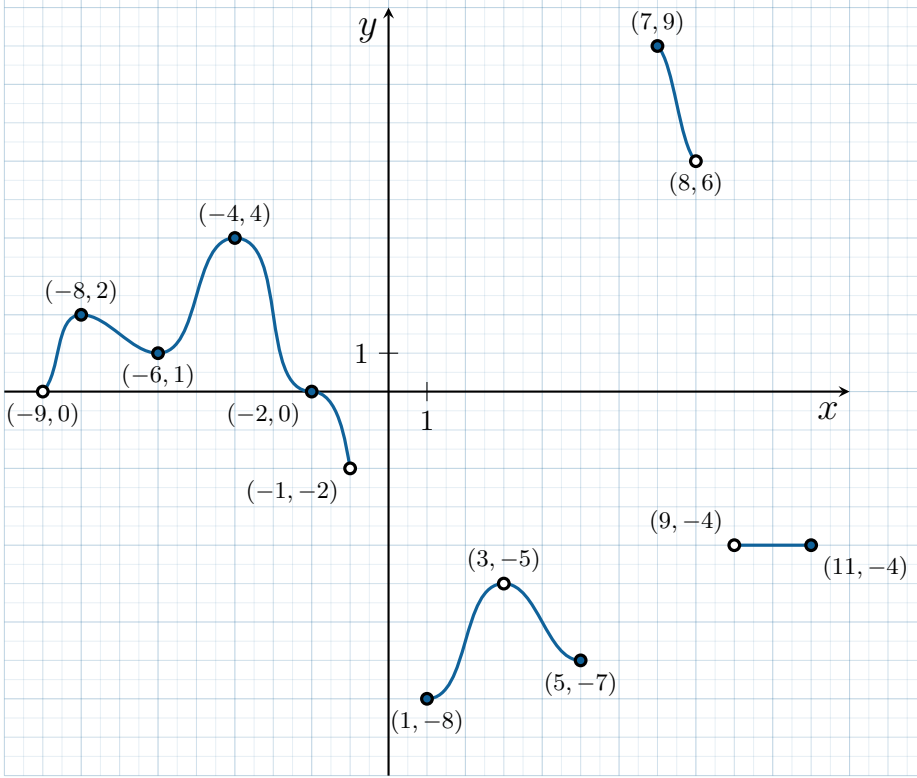
Exercise 3

Determine the set $\{x \in \mathbb{R} : f(x) > 0\}$, where f is given by this sketch:



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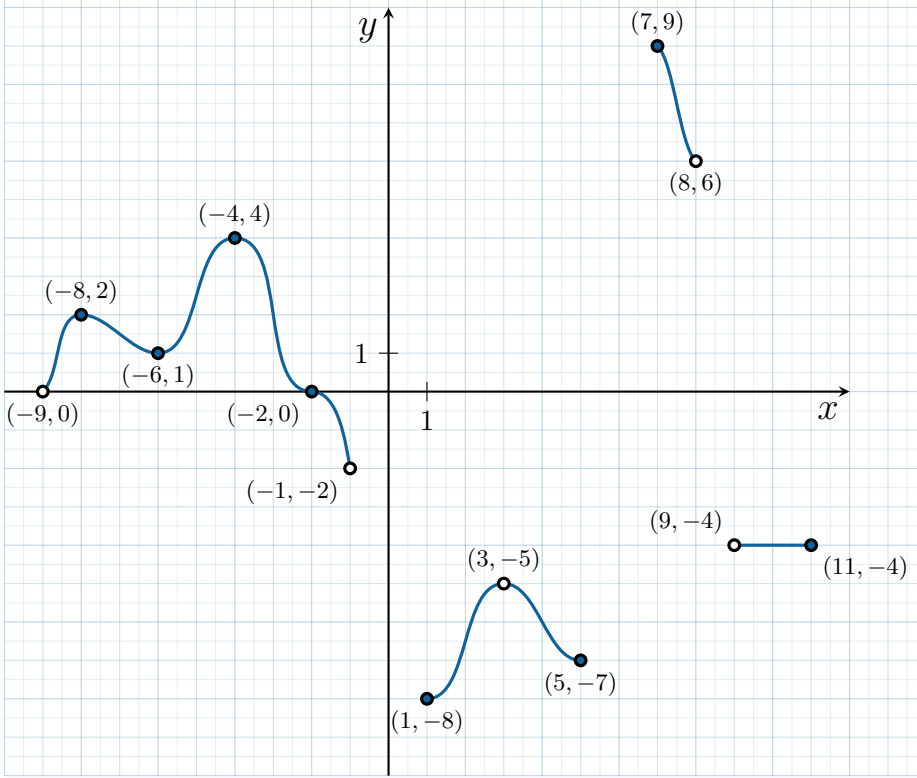
Exercise 4

Determine all maximal intervals on which f is increasing, all maximal intervals on which f is decreasing, and all points at which f has a local maximum or local minimum, where f is given by this sketch:



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