Functions

Worked Examples
Does the relationship that associates to each person his or her weight (in pounds) define a function?
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Without any more information, the answer would have to be “no.” We weigh more now than we did as children. For most of us, our weight fluctuates (sometimes a lot) from day to day, from year to year. There is not exactly one weight for each person.
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But if we are more explicit – each person’s weight in pounds wherever they happen to be at exactly noon Pacific Standard time on Friday January 5th, 2007, -- now we do have exactly one weight for each person, and that would define a function.
Does the relationship that tracks a person’s weight (in pounds) over time define a function?
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Yes, this gives a different function for each person. For any given person, there is exactly one weight in pounds at each instant, so the exactly one feature is satisfied.
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\[
x + 2 < 0, \text{ or } \quad x < -2
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Any other real number will make sense.
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The domain of this function is the set of all real numbers except those that are less than negative 2, or

\[
\{x \in \mathbb{R} | x \geq -2\} \text{ or } [-2, \infty).
\]
If \( g(t) = -11t^2 + \pi \), find \( g(4) \).
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We just substitute 4 for \( t \) in the algebraic rule (plug it in):

\[
g(4) = -11(4^2) + \pi = -176 + \pi
\]