

Exercise 33

Find the domain of the function.

$$f(t) = \sqrt[3]{2t - 1}$$

Solution

Note that this function can also be written as

$$f(t) = (2t - 1)\sqrt{|2t - 1|}.$$

The domain of a square root function is obtained by requiring that its argument be greater than or equal to zero.

$$|2t - 1| \geq 0$$

Any value of t satisfies this inequality. Therefore, the domain is $\{t \mid -\infty < t < \infty\}$.