

**Exercise 53**

For the following exercises, write the domain for the piecewise function in interval notation.

$$f(x) = \begin{cases} x^2 - 2 & \text{if } x < 1 \\ -x^2 + 2 & \text{if } x > 1 \end{cases}$$

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**Solution**

The domain is  $(-\infty, 1) \cup (1, \infty)$  because the function has an output for every value of  $x$  except 1.