

CONTINUITY EXERCISES

Graph each function and find all real number values at which the given functions are discontinuous.

1. $f(x) = \frac{1}{x^2 - 1}$

2. $f(x) = \frac{1}{x^2 - x - 6}$

3. $f(x) = \frac{1}{2x^2 - 5x - 3}$

4. $f(x) = \frac{x^2 - 1}{x - 1}$

5. $f(x) = \sqrt{x}$

6. $f(x) = \frac{1}{\sqrt{x}}$

7. $f(x) = |x|$

8. $f(x) = \begin{cases} 1 & \text{if } x \neq 1 \\ 2 & \text{if } x = 1 \end{cases}$

9. $f(x) = \begin{cases} x & \text{if } x < 2 \\ 2 & \text{if } 2 \leq x \leq 3 \\ -x + 6 & \text{if } x > 3 \end{cases}$

10. $f(x) = \begin{cases} x & \text{if } x < 2 \\ 2 & \text{if } 2 \leq x \leq 3 \\ -x + 5 & \text{if } x > 3 \end{cases}$