1. Let \( F(x) = x^2 + 1 \). Compute the first five points on the orbit of 0.

2. Let \( G(x) = x^2 - 2 \). Compute \( G^2(x) \) and \( G^3(x) \).

3. Let \( H(x) = |x| \). Compute \( H^2(x) \) and \( H^3(x) \). What are the eventually fixed points for \( H \)?

4. Find all real fixed points (if any) of the following functions:
   (a) \( F(x) = 3x + 2 \)
   (b) \( F(x) = x^2 + 1 \)
   (c) \( F(x) = |x| \)
   (d) \( F(x) = x \sin x \)

5. Let \( F(x) = 1 - x^2 \). Show that 0 is a period-2 point for \( F \).

6. Consider the function \( G(x) = |x - 2| \).
   (a) What are the fixed points of \( G \)?
   (b) If \( m \) is an odd integer, what can you say about the orbit of \( m \)?
   (c) If \( m \) is an even integer, what can you say about the orbit of \( m \)?

7. Consider the tent map \( T : [0, 1] \to [0, 1] \), defined by
   \[
   T(x) = \begin{cases} 
   2x & \text{if } 0 \leq x \leq 1/2 \\
   2 - 2x & \text{if } 1/2 \leq x \leq 1.
   \end{cases}
   \]

   \[\text{Figure 1. The tent map.}\]

   (a) Find a formula for \( T^2 \), and sketch its graph.
   (b) Find all fixed points for \( T \) and \( T^2 \).
   (c) Find a formula for \( T^3 \), and sketch its graph.
   (d) What does the graph of \( T^n \) look like?