

Fixed Points — Worksheet

Name: _____ Date: _____

For each function below, find its fixed point(s) — the value(s) where $f(x) = x$ — using Desmos or a calculator. Then, starting near each fixed point and iterating f several times, decide whether it is **attracting** (values move closer) or **repelling** (values move farther away). Some functions have more than one fixed point — use as many rows as you need.

1. $f(x) = \cos(x)$

Fixed Point	Attracting or Repelling?

2. $f(x) = \sqrt{1+x}$

Fixed Point	Attracting or Repelling?

3. $f(x) = x^2$

Fixed Point	Attracting or Repelling?

4. $f(x) = \sin(x)$

Fixed Point	Attracting or Repelling?

5. $f(x) = 3.2x(1-x)$

Fixed Point	Attracting or Repelling?