Exam 3 **Foundations of Advanced Math** **3/24/23**

1. Let $f, g : \mathbb{R} \to \mathbb{R}$.

   (a) If f and g are both increasing, then $f + g$ is increasing.

   (b) If f and g are both increasing, then $f \cdot g$ is increasing.

2. If $f : A \to B$ and $g : B \to C$ are surjective functions, then $g \circ f$ is surjective.

3. If $f : A \to B$ is a bijection, then f is invertible.

4. If A is equipollent to B, then B is equipollent to A.

5. The set of throdd natural numbers is countable. (Yes, you need to include the details)