

Problem 5.1: *properties of function compositions* (1+1+1 = 3 points)

- If f and g are injective, then $g \circ f$ is injective.
- If f and g are surjective, then $g \circ f$ is surjective.
- If f and g are bijective, then $g \circ f$ is bijective.

- What are the smallest and the largest numbers that can be represented and why?
- What is the representation of -7 and -99 in $b5n4$?
- Add the numbers -1 and -99 in $b5n4$. What is the result in b -complement representation? Convert the result from b -complement representation back into the decimal number system.

Explain step by step how the decimal fraction 1234.4321 is converted into a single precision floating point number.