Practice worksheet | Functions and graph sketching

Composition and domain restrictions

Name: _____ Date: _____

6 questions | 20 marks

1. Let $f(x) = \sqrt{x - 1}$ and $g(x) = 2x + 3$. Find both compositions and their domains. [4 marks]

2. Let $f(x) = 1/(x - 2)$ and $g(x) = x^2$. Find the domain of $f \circ g$. [3 marks]

3. For $f(x) = \ln x$ and $g(x) = 3 - x$, find $(f \circ g)(x)$ and its domain. [3 marks]

4. Let $f(x) = \sqrt{x}$ and $g(x) = x^2 - 4$. Find the domain of $g \circ f$. [3 marks]

5. Let $f(x) = x + 1$ and $g(x) = 1/x$. Compare $f \circ g$ and $g \circ f$. [4 marks]

6. Let $f(x) = \sqrt{4 - x^2}$ and $g(x) = x - 1$. Find the domain of $f \circ g$. [3 marks]