

Name _____

You have 13 minutes for this quiz – no calculators allowed.

1. (2 points) Find the domain of the function $f(x) = \sqrt{50 - 2x} + \ln(x - 8)$.

2. (2 points) Suppose that $f(x) = \frac{1}{x^2 - 4}$ and $g(x) = \frac{1}{x} + 5$.

(a) Find a simplified formula for $(g \circ f)(x)$.

(b) Find the domain of $(g \circ f)(x)$.

3. (3 points) Given that $f(x)$ is an even function and that $g(x) = (f(x) + 5)^3$, is $g(x)$ an odd function, an even function or neither? Give a clear justification for your answer.

4. (3 points) Carefully sketch the graph of $y = 5 + 2e^{-x}$. If there are any horizontal or vertical intercepts or asymptotes, then their locations should be accurately shown on your graph.