

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Let $f(x) = \sqrt[3]{x^2 + 2}$, with $x \geq 0$.

(a) Find a formula for $g(x) = f^{-1}(x)$.

(b) Find a formula for $g'(x)$.

(c) Compute $g'(3)$.

2. Consider again $f(x) = \sqrt[3]{x^2 + 2}$, $x \geq 0$, and set $g(x) = f^{-1}(x)$. Compute $g'(3)$, using the formula for the derivative of the inverse function, without explicitly computing $g(x)$.