Name

- No calculators allowed.
- Show sufficient work to justify each answer.
- You have 15 minutes for this quiz.

1. (3 pts) An exponential function has a $y$-intercept of 6 and passes through the point $(8, 24)$. Determine a formula for this function.
2. (3 pts) Solve for $x$ in the equation below.

$$\ln(x^2 + 2x - 14) = 0$$

3. (3 pts) Given that $g(x) = 3e^{x^3+4}$, find a formula for $g^{-1}(x)$.

4. (1 pt) Suppose that $f$ is a one-to-one function which takes on the following values.

\[ f(-3) = 3, f(-2) = -4, f(-1) = 2, f(0) = -1/3, f(1) = 1/2, f(2) = -3, f(3) = 0 \]

What is the value of $f^{-1}(2)$ ?
1. (3 pts) An exponential function has a y-intercept of 4 and passes through the point (8, 36). Determine a formula for this function.
2. (3 pts) Solve for $x$ in the equation below.

$$\ln(x^2 - 8x + 16) = 0$$

3. (3 pts) Given that $g(x) = 3e^{\sqrt[3]{x}+5}$, find a formula for $g^{-1}(x)$.

4. (1 pt) Suppose that $f$ is a one-to-one function which takes on the following values.

$$f(-3) = 3, f(-2) = -4, f(-1) = 2, f(0) = -1/3, f(1) = 1/2, f(2) = -3, f(3) = 0$$

What is the value of $f^{-1}(3)$?