

Name _____

- You have 15 minutes
- No calculators
- Show sufficient work

1. (4 points) A bacterial culture starts with 200 bacteria and triples in size every 2 hours.
 - (a) Find a formula for the number of bacteria as a function of the number of hours since its population was 200.

(b) At what time is the population equal to 1000 ?

2. (3 points) Determine the exact value for each solution to the equation below.

$$\ln(4 - x) + \ln(4 + x) = 0$$

3. (3 points) Given that $g(x) = \frac{3 + 2x}{5 - 4x}$, find a formula for $g^{-1}(x)$.