

1. Write a function describing the number of Bacteria A in the culture after  $t$  hours. Use function notation and show your work in the space below.

$$\boxed{100 \cdot 3^{t/2}} \quad 300 = 100 \cdot 3^{2/2}$$
$$100 \cdot 3$$

2. Write a function to describe the total number of bacteria (Bacteria A and Bacteria B) in the culture after  $t$  hours. Use function notation and show your work in the space below.

$$A = 100 \cdot 3^{t/2} \quad B = 100 \cdot 3^{2/2}$$

3. Using your function from question 2, determine when the number of bacteria in the culture reaches 9,000.

$$y(t) = 100 \cdot 3^{t/2}$$
$$y_2 = 9000$$
$$8.192 \text{ hours}$$

↑  
rounded