

Answer on Question #83867 – Math – Algebra

Question

Suppose there are initially 2,200 bacteria in a culture and the number of bacteria triple each hour, the number of bacteria after t hours can be found using the formula $y = 2200(3)^t$. How long will it take the culture to grow to 180,000 bacteria?

Solution

$$y = 2200 \cdot 3 \cdot t$$

$$y = 180000$$

$$t = \frac{y}{2200 \cdot 3}$$

$$t = 27,2727272727 \text{ hours or } t \approx 27 \text{ hours } 16 \text{ min } 22 \text{ sec}$$

Answer: $t = 27,2727272727$ hours or $t \approx 27$ hours 16 min 22 sec.