7-2A Lesson Master

UES Objective D

In 1–3, match the scenario to the correct formula listed below.

A  \( P = 7(1.02)^t \) 
B  \( P = 7(2)^t \) 
C  \( P = 7(1.2)^t \)

1. A colony of bacteria doubles every hour. If a scientist started with 7 cells, how many cells would there be in \( t \) hours?

2. Scientists introduced 7 sea turtles into the ocean. They hope the sea turtle population grows by 2% each year. How many sea turtles will there be in \( t \) years?

3. When Pricy Pants Company opens a new store, they charge $7 for a pair of pants. Each year their cost of pants increases by 20%. How much will it cost to buy a pair of pants \( t \) years from the opening year?

4. Anya has started a new job paying $8.00 per hour. Assuming that her work is excellent, she will get a 5% raise every 4 months.
   a. After 3 years, how many raises will she have gotten?
   b. What will her pay rate be after 3 years?
   c. If her employer kept giving her pay raises this way, what would her pay rate be after she had been working for 10 years?

REPRESENTATIONS Objective H

5. The president of Acme Industries predicts that the sales of a new product will grow by 35% every year for the next 5 years. This year’s sales were $40,000.
   a. Make a table of values showing the amount of sales 0, 1, 2, 3, 4 and 5 years from now.
   b. Graph the sales for the first five years.