Unit 2 HW 21

Name_____ Date_____ Period_____

Determine (and circle) whether the situation is arithmetic or geometric. Then write an equation and answer the question that follows.

1. While lounging around in a hotel's hot tub, you complain that the current temperature, 75°, isn't hot enough. The hotel staff says they will increase the temperature 10% every hour. What will the temperature be in 3 hours?

   Circle One: Arithmetic Geometric Formula: _____

2. After a knee injury, your trainer tells you to return to your jogging program slowly. He suggests jogging for 12 minutes each day for your first week and increasing that time by 6 minutes every week. After how many weeks will you be running an hour per day?

   Circle One: Arithmetic Geometric Formula: _____

3. A new website got 4000 views on the first day. Unfortunately during the next 4 days, the number of views decreased by 30% every day. How many views were there on the $5^{th}$ day?

   Circle One: Arithmetic Geometric Formula: _____

4. A culture of bacteria doubles every hour. If there are 300 bacteria at the beginning, how many bacteria will there be after 10 hours?

   Circle One: Arithmetic Geometric Formula: _____

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Simplify.

5. $5(3)^2 - 7(3) - 4$

6. $-2(1)^2 + 8(1) + 7$

7. $3(-2)^2 + 4(-2) - 9$

8. $-2(-1)^2 + 8(-1) + 7$

Solve. Be sure to show your work.

9. $4(x + 2) - 3(x + 1) = -2(x + 2)$

10. $-4(x - 9) = -5(x - 3) + 7(x - 1) - 2$

11. $2(x + 2) - 3(x - 3) = 5(x + 3) - 2(x + 1)$