Unit 2 HW 22

Name___*Key*___ Date_____ Period_____

Simplify.

1. $3(4)^2 + 9$

   57

2. $8(-3)^2 - 80$

   -8

3. $4(3)^2 - 5(3) + 12$

   33

4. $-2(-5)^2 + 6(-5) + 31$

   -49

5. For each sequence, find the next three terms, and determine if it's arithmetic or geometric.

   a. 65, 75, 85, 95…

   Next 3 terms: _____, _____, _____

   Circle One: (Arithmetic)   Geometric

   b. 3, 6, 12, 24…

   Next 3 terms: _____, _____, _____

   Circle One: Arithmetic   (Geometric)

6. Write the equation of a line:

   a. with a slope of $\frac{2}{3}$ that goes through the point (-6, 2).

   $y = \frac{2}{3}x + 6$

   b. that goes through (-2, -3) and (6, -7).

   $y = -\frac{1}{2}x - 4$

For Problems 7-8

a. Circle if each sequence is arithmetic, geometric, quadratic, or none of these.

b. Write a formula for the sequence

c. Find the seventh and tenth terms in each sequence.

7. 3, 8, 13, 18 ...

Circle One:　　(A)　G

Formula: $a_n = -2 + 5n$ or $a_n = 3 + 5(n-1)$

a_7: ___33___　　a_{10}: ___48___

8. $600, 450, 337.5$

Circle One:　　A　(G)

Formula: $a_n = 800 * (.75)^n$ or $a_n = 600 \cdot \left(\frac{3}{4}\right)^{n-1}$

a_7: __106.787__　a_{10}: __45.051__

9. Solve the system of equations by graphing

$$\begin{cases} 8x - 2y = 12 \\ 2x + 3y = 24 \end{cases}$$

$(3, 6)$

use this!