CP Geometry **Name:** _____
Quiz: Unit 1
September 16, 2011

This quiz is worth 70 points. **You must show all necessary work for full credit**.

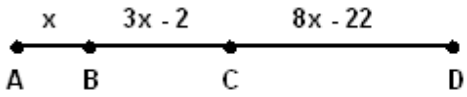
1.) Find the most likely next term in the sequence: **[6 Points]**

3, -5, -10, -12, -11, -7, 0, ?

2.) Find the rule, $(a_n = ?)$ for this sequence: **[3 Points]**

9, 20, 35, 54, 77, ...

3.) **[6 Points]**



Given: A, B, C, D are collinear
C is the midpoint of $\overline{AD}$

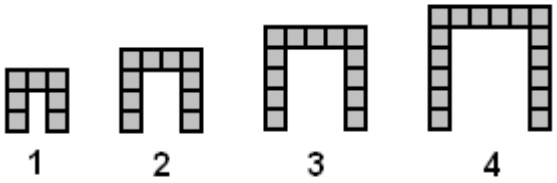
Find: x = _____
BD = _____

4.) Points A, B, and C fall on a straight line where B is between A and C. **[6 Points]**
If AB is three more than twice BC and AC = 25, find AB.
You must set up an equation and solve for full credit!

5.) How many people must be gathered in the CHS cafeteria to guarantee at least 25 of them were born in the same month? **[6 Points]**

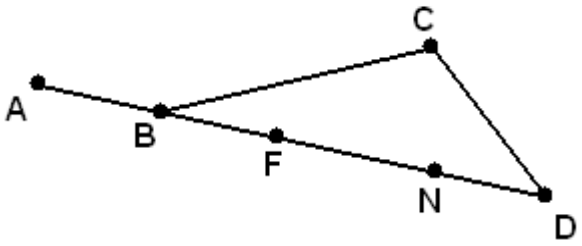
6.) (A) Find a general rule for the number of unit squares needed to construct the n^{th} figure.

(B) Use your rule to find the number of unit squares in the 100^{th} figure. **[8 Points]**



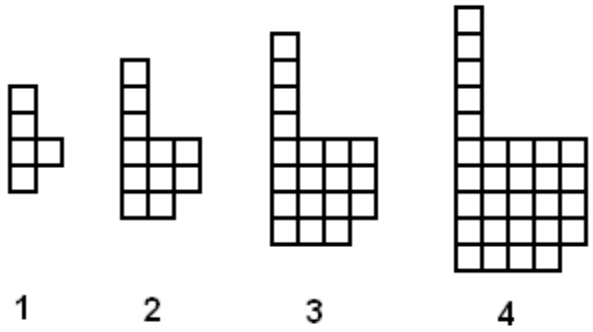
7.) Find the rule for an arithmetic sequence with $a_{12} = 204$ and $a_{27} = 159$. **[6 Points]**

8.) What is the probability a randomly chosen segment in the figure contains point N? **[6 Points]**

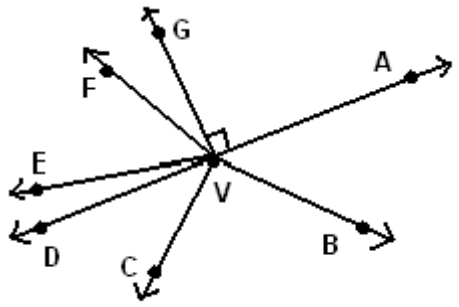


9.) (A) Find a general rule for the number of unit squares needed to construct the n^{th} figure.

(B) Use your rule to find the number of unit squares in the 200^{th} figure. **[8 Points]**



10.) **[15 Points]**



Given:

$m\angle AVB = (13x + 3y + 40)$
$m\angle BVC = (9x + 5y + 33)$
$m\angle CVD = (8x + 6y + 27)$
$m\angle DVE = (4x + 8y - 5)$
$m\angle FVG = (2x + 6y + 3)$

$\angle EVD \cong \angle FVG$

A, V, D are collienar

Find:

$x =$ _____

$y =$ _____

$m\angle EVF =$ _____