

**Directions:** Show all your work and circle your final answers You may not use a calculator on this test. "Tell the truth - all the time!"

**Pre-test 1 - Concepts (Mazzeo/Shulkin 2012)**

**Short Answer**

- 1** Find the next two terms in terms of each sequence:



**2)** 1, 2, 4, 7, 11, \_\_\_\_\_, \_\_\_\_\_, .....

**3)** 20, 17, 23, 26, 20, \_\_\_\_\_, \_\_\_\_\_, .....

- 2** Use the sequence below to answer the following questions:



4.) Complete the table by filling in the number of hexagons in each term of the sequence

Term (n)	1	2	3	4	5
Hexagons (h)					

5.) Write the equation showing the relationships between the term and the number of hexagons in that term. Let  $n$  represent the term and  $h$  the number of hexagons.

6.) Use your equation from above to find the number of hexagons in the 10th term. Show your thinking.

- 3** 7.) Write the power as a product  
 $3^4$

8.) Write the product as a power  
 $7(7)(7)(7)(7)(7)(7)$

.

- 4** Perform the indicated operations

9.)  $4^2 + (8 - 3)6$

10.)  $6 + 11 - 4 + 9$

11.)  $5(2)^3 - 15 \div 3$

12.)  $\frac{25 - 3(4)}{9 - 5}$

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- 5** Find the number of handshakes for 7 CIA employees. Support your solution with a drawing using colored pencils.