Pascal's Pyramid Assessment – Part II   Good luck to _____

Assume a perfectly built 7-layer pyramid for all questions unless otherwise stated.

A. GUMDROPS (Hint: Go layer by layer. Look for a pattern.)

1. How many gumdrops are in your pyramid? _____

2. How many gumdrops would you need for an 8-layer pyramid? _____

3. How many gumdrops would you need for a 10-layer pyramid? _____

4. How many gumdrops would you need for an n-layer pyramid? _____*

5. How many gumdrops have 12 toothpicks in them? _____

6. How many gumdrops have 9 toothpicks in them? _____

7. How many gumdrops have 6 toothpicks in them? _____

8. How many gumdrops have 3 toothpicks in them? _____

9. How many gumdrops are located entirely in the middle? _____

B. PYRAMID

10. How many faces does your pyramid have? _____

11. How many edges does your pyramid have?_____

12. How many corners (vertices) does your pyramid have?_____

13. Are the answers for 10-12 the same for an 8-layer pyramid?_____

C. **TOOTHPICKS** (Hint: Try to do it a couple of ways. Discuss it with one another. Make sure you're not missing any!)

14. How many toothpicks are in your pyramid? _____

15. How many toothpicks would you need for a 10-layer pyramid? _____

16. How many toothpicks would you need for a n-layer pyramid? _____*

D. **TRIANGLES** (Hint: Be systematic and orderly.)

17. Three gumdrops and three toothpicks form a small equilateral triangle. How many of these <u>small</u> equilateral triangles are in your pyramid? _____

E. **SMALL PYRAMIDS**

18. Four gumdrops and six toothpicks form a small pyramid (like the top two layers). How many <u>small</u> pyramids are in your 7-layer pyramid? _____

F. **OTHER SHAPES**

19. Name at least six other shapes (besides triangle and pyramids) that you see in your pyramid. Draw a sketch of each one.

F. **CHALLENGE PROBLEM**

20. How many different triangles of all different sizes are in your pyramid?