




Painting Towers Worksheet

Name _____

Period _____

Suppose you are painting a tower of single cubes. Use the table below to find the relationship between the number of faces to paint and the number of blocks in the tower (only the sides and top are to be painted).

Step Number	Figure	Written Description	Numerical Process	Number of Faces to Paint
1		A one cube-high tower has 5 faces to paint.		
2				
3				
4				
n				

- How many faces need to be painted for a 25 cube tower?
- Using words and the towers above, describe what each coefficient or variable represents in your rule for the number of faces to paint in an n cube tower.

3. If the tower you paint has 25 faces, how many cubes are in the tower? Explain how you know.

4. Suppose you have two adjacent columns of cubes instead of the one column as before. Use your cubes to build the first four figures and determine the number of faces that need to be painted.

Step Number	Figure	Written Description	Numerical Process	Number of Faces to Paint
1				
2				
3				
4				
n				

5. Write a rule in words to describe how to find the total number of faces that need to be painted for two columns of cubes with 35 cubes in each column.

6. Write a rule in symbols that expresses the relationship between the number of cubes in each column and the total number of faces to be painted. State what each coefficient and variable represents in the towers above.