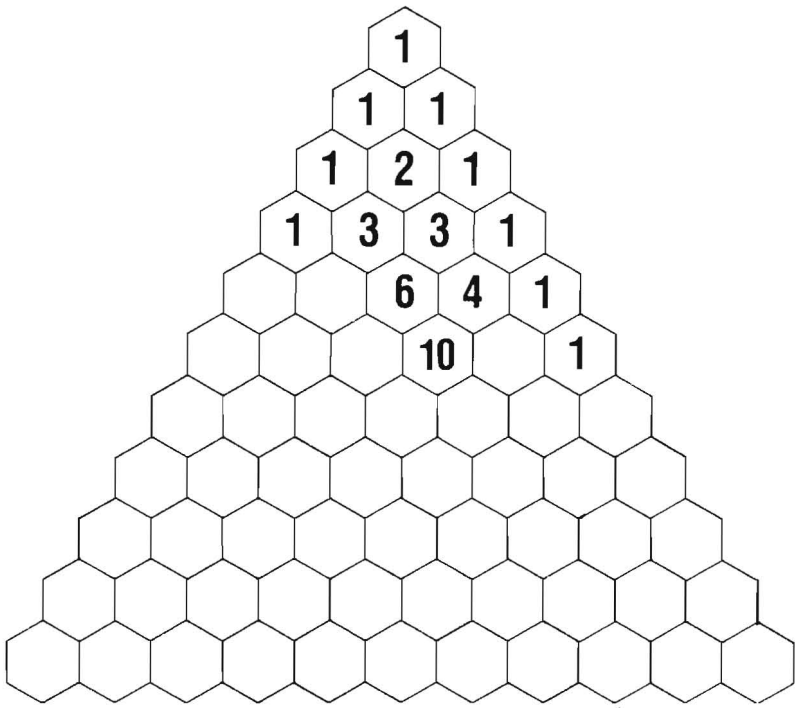
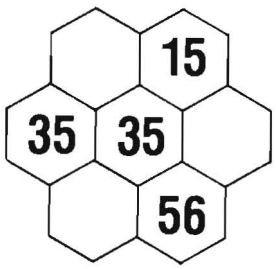
WORKSHEET 1

Use the pattern to fill in the missing numbers in Pascal's triangle.

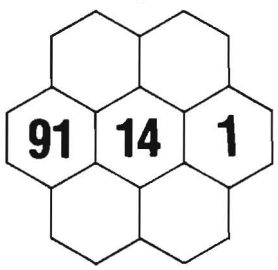


Shown below are portions of Pascal's triangle. Fill in the missing numbers.

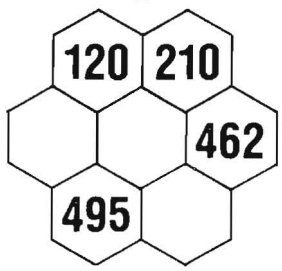
A



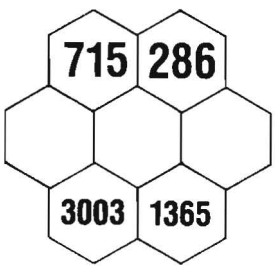
B



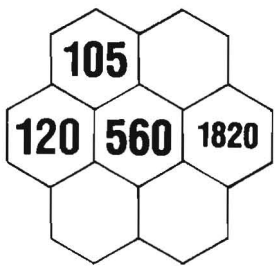
C



D



E



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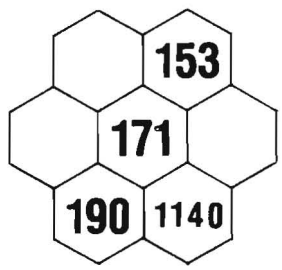
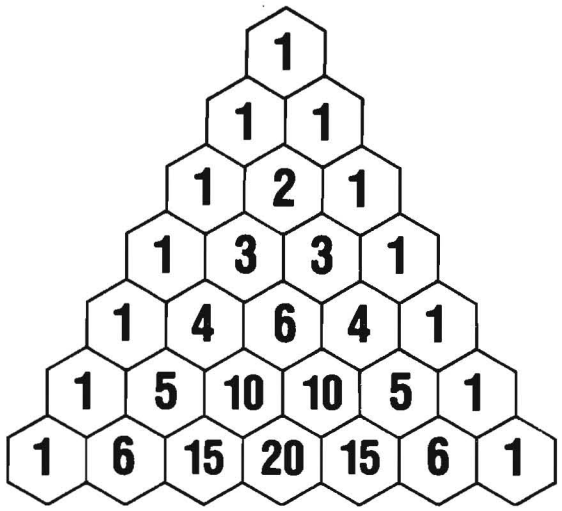


WORKSHEET 2



1. (a) Find the sum of the elements in the first few rows of Pascal's triangle. Fill in the following table:

Row	0	1	2	3	4	5	6
Row sum	1	2					

(b) What is the pattern of the sums?

(c) How could you relate the row number to the sum of that row?

(d) How would you express the sum of the elements in the 20th row? the 100th row? the *n*th row?

2. (a) Where is the element that will give the sum of the first 4 elements of the first diagonal (1 + 2 + 3 + 4)? The first 5 elements of the first diagonal?

(b) Where is the element that will give the sum of the first 4 elements of the second diagonal (1 + 3 + 6 + 10)?

(c) What is the pattern that will give the sum of any number of elements in any diagonal?

3. (a) Find the sum of *all* the elements in Pascal's triangle down to and including the first 6 rows. Fill in the following table:

Row	0	1	2	3	4	5
Triangular sum	1	3				

(b) If you see a pattern, then you can fill in the following table without adding all the elements.

Row	6	7	8	9	10
Triangular sum					

(c) What is the rule?

CHART 1

PASCAL'S TRIANGLE