

Pascal's Triangle

Skill A Finding entries in Pascal's triangle.

			1			
		1		1		
	1		2		1	
1		3		3		1

Patterns in Pascal's Triangle:

- Row n of Pascal's Triangle contains $n + 1$ entries.

How many entries are in the 53rd row of Pascal's Triangle?

- The sum of all entries in row n of Pascal's triangle equals 2^n .

What is the sum of the entries in the 10th row on Pascal's triangle?

- The k th entry in row n of Pascal's triangle is ${}_n C_{k-1}$.

Find the value for each entry in Pascal's triangle:

a. fourth entry in the twelfth row

b. tenth entry in the fifteenth row

Skill B Using Pascal's triangle to find probabilities.

If an experiment of 2 equally likely outcomes is repeated for n trials, the probability of either outcome occurring exactly k times is $\frac{{}_n C_k}{2^n}$.

A fair coin is tossed 8 times. Find each of the following probabilities.

(Write answer as decimal rounded to the nearest hundredth.)

1. P(exactly 3 heads)

2. P(5 or 6 heads)

3. P(more than 4 heads)

4. P(7 tails)