Part 3: The Garden Behind the House in the Garden

Table:

|  |  |
| --- | --- |
| PPs in a VP | Number of Trees |
| 0 | 1 |
| 1 | 2 |
| 2 | 5 |
| 3 | 14 |
| 4 | 42 |

The sequence that relates the number of prepositional phrases to the number of trees is known as the catalan number. It can be described as a sequence of natural numbers that often involve recursion. An equation for obtaining a catalan number is: .

Part 4: Barking Up the Wrong Tree

PCFG:

S 🡪 np, vp 2/2 = 1

Np 🡪 np, pp 1/7 = .14

Np 🡪 det, n 6/7 = .86

Pp 🡪 p, np 2/2 = 1

Vp 🡪 vp, pp 1/3 = .33

Vp 🡪 v, np 2/3 = .67

The chosen meaning of the sentence is that the cats were chased from the house. I drew this conclusion from comparing the probability value for the most probable tree. My value for the meaning where the cats were from the house was (1)(3\*.86)(.67)(.14)(1) = 0.24. My value for the cats being chased from the house was (1)(3\*.86)(.33)(.67)(1) = 0.57. With the 0.57 being a higher probability, the meaning is more likely to be that the cats were chased from the house, and not that the cats were from the house.