



Problem of the Week

Problem E

Not So Simple

Chiknskratch is a language that uses symbols rather than words. Elizabeth programs a machine that translates an English sentence to a Chiknskratch sentence one word at a time. However, there are several possible Chiknskratch symbols for each English word! Notice below that the word “This” can be translated using 4 different symbols.

Elizabeth noticed that different symbols occur next to each other at different rates. For example, “smart chicken” is more common than “intelligent chicken”. She gives scores to word pairs: the higher the score, the more common the word pair is.

An English sentence with five words must be translated into five Chiknskratch symbols. In the picture below, arrows labelled with scores connect all valid word pairs for the sentence “This is a simple sentence”. The total score for a translation is the sum of the scores of the four arrows used.

What is the highest possible total score for a translation of this sentence?

