

Worksheet 8.3: Phrase Structure (PS) rules

Problem Set 4:

The set of PS rules in the PPT slide includes two instances that generate the same phrase, namely NP (the cat/the mice – i/them/Tom/Jerry).

Try to think of a standard notation that makes it possible to reduce the two rules repeated below to one rule that generates both patterns.

NP → Det N

NP → N

Problem Set 5:

Make up simple sentences generated by the PS rules. Use **only** the PS rules below and the words given below. Don't use any other words that are not listed for each example.

S → NP VP

N = dogs, birds, cows

NP → Adj N

Adj = curious, cute, nervous

VP → V

V = bark, fly, sleep

Give three sentences which can be generated by the rules and words above:

1. _____

2. _____

3. _____

Problem Set 6:

Write the PS rules needed for the following examples (they all translate to 'the big dog'):

English	French	German	Italian	Spanish
the big dog	le grand chien	der große Hund	il cane grande	el perro grande

Solutions to Worksheet 8.3

Problem Set 4:

- The required notation is one that encodes optionality of occurrence.

$$\text{NP} \rightarrow (\text{Det}) \text{N}$$

- The single rule above generates NPs that consist of Det and N as well as NPs that consist of N alone.

NP		NP
Det	N	N
the	cat/mice	it/them/Tom/Jerry

Problem Set 5:

Any adjective – Noun – Verb combination allowed from a syntax point of view:

Some examples:

Nervous dogs bark.

Cute cows sleep.

Curious birds fly.

Problem Set 6:

English	French	German	Italian	Spanish
the big dog	le grand chien	der große Hund	il cane grande	el perro grande
NP → Det Adj N	NP → Det Adj N	NP → Det Adj N	NP → Det N Adj	NP → Det N Adj