1. John $n_{i}$ thinks he ${ }_{k}$ won. (John ${ }_{i}=h e_{k}$ )
2. $H e_{i}$ thinks John ${ }_{k}$ won. $\left(H e_{i} \neq\right.$ John $\left._{k}\right)$
3. John's $\mathbf{s}_{\mathrm{i}}$ opinion of $\mathrm{his}_{\mathrm{k}}$ dad is surprising. $\quad\left(\mathrm{John}_{\mathrm{i}}=\right.$ his $_{\mathrm{k}}$ )
4. His $_{\mathbf{i}}$ opinion of John's $\mathbf{s}_{k}$ dad is surprising. ( $\mathrm{His}_{\boldsymbol{i}} \neq$ John $_{k}$ )
5. After John ${ }_{i}$ ate lunch, he $e_{k}$ left. (John ${ }_{i}=$ he $_{k}$ )

6. *To John's $s_{k}$ father, he $\mathrm{e}_{\mathrm{i}}$ does not speak anymore. (John's $\mathrm{s}_{\mathrm{k}} \neq \mathrm{he}_{\mathrm{i}}$ )
7. In John's $\boldsymbol{s}_{\mathrm{i}}$ most recent pictures, he $\mathrm{k}_{\mathrm{k}}$ doesn't look well. (John $\mathrm{i}_{\mathrm{i}} \neq \mathrm{he}_{\mathrm{k}}$ )
8. The student sleeps.
9. *The student sleeps the problem.
10. The student solved the problem.
11. *The student solved.
12. This problem, the student solved.
13. *This problem, John solved this probiem.
(1)

(2)

(3)

$\bigcirc$
(4)


(6)


DEFINITION: Take any two categories in a tree; for example, two noun phrases (NP's), one of which is a pronoun, the other a "full" NP. If the category directly above one of them is also aboue the second one, then the first NP commands the second NP.

| PRINCIPLE: Take any pronoun and "full NP" pair in an |
| :--- |
| English sentence; for esample, a "full" NP like |
| "John" and a pronoun like "he" or "his." |
| Coreference between them will always be possible |
| unless the pronoun commands the "full" NP partner. |



TO JOHN'S FATHER HE DOES NOT SPERK RNYMORE


(9)
a.

b.


SOLUE THIS PROBLEM

## (10)


(11)

(12)

(13)




