Problem Set 7 Solutions

Problem 1

Verb	past tense	ending	3 rd person singular	ending
want	wanted	/əd/	wants	/s/
pass	passed	/t/	passes	/əz/
preach	preached	/t/	preaches	/əz/
play	played	/d/	plays	/z/
laugh	laughed	/t/	laughs	/s/
breathe	breathed	/d/	breathes	/z/
rinse	rinsed	/t/	rinses	/əz/
raid	raided	/əd/	raids	/z/
lag	lagged	/d/	lags	/z/
wish	wished	/t/	wishes	/əz/
please	pleased	/d/	pleases	/əz/

a) We see that for verbs ending in "t" and "d", the ending /əd/ is added for past tense. For all the other verbs, if the ending sound of the verb is voiced, /d/ is added, and /t/ is added for voiceless ones.

Our goal is to use a minimal/simplest set of rules to satisfy all these conditions.

Solution

1) Past tense => $[ad] / add = add = bd = bd = bd = bd = bd = bd$	+coronal -continuant	#
[t] / [d]	- voice	# #

(interpretation: to make a verb plural, add /əd/ if its end is +coronal and -continuant. If the ending is not +coronal and -continuant, and it is not voiced, add /s/, otherwise add /z/. Note the order of [z] and [s] can be exchanged without affecting the result.)

b) To form 3^{rd} person singular,

1) ∅ => ə / +strident #____ +coronal (tongue blade)

- 2) [z] / [+voice] #_____
- 3) [s] / [-voice] #_____

(Interpretation: add a /a/ sound if the verb ends in a +strid, +cor consonant. After that is done, if the verb ends in +voiced, add [z], else add [s]. Note: the order of the rules matter)

Problem 2:

Only rule C applies to the vowel alternations.

Problem 3: 290; 97