I. Terminology. Items a-h are terms describing particular morphological configurations. For each dataset, write on the line to the left of the dataset the letter or letters corresponding to the description(s) that the dataset illustrates.

a. one morpheme with several meanings
b. homophonous but distinct morphemes
c. word family
d. paradigm
e. morphophonemically conditioned allomorphy
f. morphologically conditioned allomorphy
g. suppletive allomorphy
h. non-concatenative morphology

Examples from Ngizim, a Chadic language of northeastern Nigeria.

1.  e (d)  
   Perfective  Imperfective  Subjunctive
   màsu  masà  màfì  ‘buy’
   bàzu  bàzà  bàfì  ‘leave’
   màtu  màtà  màtì  ‘die’
   gàdu  gòdà  gàfì  ‘pluck off’
If the last consonant is an alveolar, it changes to an alveopalatal if the following vowel is /i/. The conditioning is thus (morpho)phonemically definable. It is a little stretch to say that these examples represent (d) paradigm, but each line does show a set of word-forms “arranged according to the categories defined by the system of inflectional features”. One of the inflectional categories of verbs is tense-marking, and the verbs are arranged according to this category.

2.  h  
   Perfective  Verbal noun
dòbsu  dòbas  ‘hide’
tòr’du  tòr’ad  ‘squeeze out’
ràp’du  ràp’ad  ‘boil’
kàn’dumu  kàn’amu  ‘(for a storm to) come up’
Taking the tensed verb form as the base, the verbal noun is formed by vowel insertion into the base or vowel replacement inside the base rather than adding an affix. Unlike example #1, it would not really be right to call each line a “paradigm” since the change is not an inflectional one.

3.  g  
   Perfective  Subjunctive
dỳu  ‘went’
ỳì  ‘should go’
dèu  ‘came’
này  ‘should come’
Verbs with the same meaning have forms with no phonological relationship in the perfective vs. subjunctive.

4.  f  
   na zòbi  ‘I should marry’  na zògì  ‘I should know’
   kà zòbi  ‘you should marry’  kà zògì  ‘you should know’
Subject pronouns have short or long vowels conditioned by use with particular verbs rather than (morpho)phonological conditions (compare #1 above).
II. Lexical entries and rules for a morpheme-based account of morphology. Make up morpheme-based style lexical entries for all the roots and affixes in the data. FOR MORPHEMES WITH MORE THAN ONE ALLOMORPH, PUT ALL THE ALLOMORPHS IN SLANT BRACKETS IN YOUR LEXICAL ENTRY. Draw a derivational tree for maruway ‘farmer’, then write morphological concatenation rules that would be needed to generate the tree.

\[
\begin{align*}
\text{dòbdu} & \quad \text{‘(he) sold’ (perfective and citation form of verb)} \\
\text{dòbdʒi} & \quad \text{‘that … sell’ (subjunctive)} \\
\text{dòbat} & \quad \text{‘selling’ (verbal noun)} \\
\text{madòbat} & \quad \text{‘seller’} \\
\text{madòbdadin} & \quad \text{‘sellers’ [OMIT THE PLURAL MORPHOLOGY IN YOUR LEXICON AND RULES]} \\
\text{ruwyu} & \quad \text{‘(he) farmed’ (perfective and citation form of verb)} \\
\text{ruyi} & \quad \text{‘that … farm’ (subjunctive)} \\
\text{ruway} & \quad \text{‘farming’ (verbal noun)} \\
\text{maruway} & \quad \text{‘farmer’} \\
\text{maruwayayin} & \quad \text{‘farmers’ [OMIT THE PLURAL MORPHOLOGY IN YOUR LEXICON AND RULES]} \\
\end{align*}
\]

NOTE: A full account will also need morphophonemic rules to palatalize the /d/ of dòbdʒi and to devoice the final /d/ of dòbat and madòbat.

Roots

\[
\begin{align*}
\text{/dòbd ~ dò bdZ ~ dòbat/} & \quad \text{ruwy -} \\
\{ \text{V} \} & \quad \{ \text{V} \}
\end{align*}
\]

Tense affixes

\[
\begin{align*}
\{ \text{-u} \} & \quad \{ \text{-i} \}
\end{align*}
\]

Derivational affixes

\[
\begin{align*}
\{ \text{-V - /__C3} \} & \quad \{ \text{ma -} \} \\
\text{Naff} & \quad \text{Npref} \\
\text{V verbal noun} & \quad \text{agent of action} \\
\text{Nstem of verbal noun} & \quad \end{align*}
\]

Since the verbal noun “affix” is non-concatenative, it is messy to formulate in this framework. The entry here is meant to mean “insert a vowel before the third consonant” (virtually all verbs with this type of verbal noun have three consonants). The default vowel will be a copy of the root vowel (see question 2 of part I). Verbs inserting other vowels, like ruway ‘farming’ from ruwyu ‘to farm’ will have to be marked with a diacritic in the lexicon. The “V” as the combinatorial potential indicator, without an environment line, means that the “affix” goes with a verb, but is neither before or after it.

Rule(s)

\[
\text{Nstem} \rightarrow \{ \text{V root} \} \text{ Naff} \\
\text{Npref} \text{ Nstem}
\]

Derivational tree

\[
\begin{align*}
\text{Nstem} & \quad \text{Npref} \quad \text{Nstem} \\
\text{Vroot} & \quad \text{Naff} \\
\text{ma-} & \quad \text{-ruw-} \quad \text{-a-} \quad \text{-y}
\end{align*}
\]
II. Definitions. Fill in the blanks with reference to the forms in the previous question. Some of these may have more than one reasonable answer. You will get credit for any suitable term.

In the left hand group of words,

/ruwy-/ is the ______ root______ of all the words in the second group.

d̄ɔbd- ~ d̄ɔbdʒ- ~ d̄ɔbdʒ are ____ allomorphs_____ of the ___ morpheme (root)___ {SELL}.

ruwy- is the _____ stem (base, root)_____ of rùwyu ‘he farmed’.

maruwy- is the ______ base (stem)______ of maruwyayin ‘farmers’.

rùwyu, rùway, maruway are separate ______ lexemes (words)_____.
