

Phonetics

Answers to questions, pp. 55–58

Section numbers before each problem indicate material on which the problem is based.

SECTION 1

1. *Sample answers:*

- a) fish, huff, tough, phantom: the underlined letters in each word are pronounced [f].
- b) art [ɑ], cat [æ], table [ej], above [ə], awful [ɔ], Israel [i].
- c) Peter, mesquite, priest, meet, meat: all underlined letters = [i]
- d) tough (where gh = [f]); hiccough (where gh = [p])

SECTION 1.2

2. (*Note:* The vowels [ej], [aj], [aw], and [ow] are treated as single-unit segments. Most students will intuitively treat these vowels as single segments.)

- a) 2 [æt]
- b) 3 [mæθ]
- c) 4 [kjuː]
- d) 5 [hɑpɪŋ]
- e) 8 [sajkələʃi]*
- f) 5 [nɑlɪʃ]*
- g) 7 [mejlbaks]
- h) 4 [ɔsəm] or 3 [ɔsm]

*Note that IPA transcription forces the 2-symbol transcription of what students should interpret as a single segment for the purposes of this question: [dʒ].

SECTION 5

3. a) voiced [ð] e) voiced [z] i) voiceless [h] m) voiced [w] or voiceless [ʍ]
- b) voiceless [θ] f) voiceless [s] j) voiceless [tʃ] n) voiced [g]
- c) voiceless [f] g) voiced [p] k) voiced [dʒ] o) voiced [n]
- d) voiced [v] h) voiced [b] l) voiced [b] p) voiced [w]

SECTIONS 5–6

4. a) voiced [ow] e) voiced [m] i) voiced [dʒ] m) voiced [n]
- b) voiceless [t] f) voiceless [k] j) voiced [z] n) voiced [ow]
- c) voiced [m] g) voiced [n] k) voiced [dʒ] o) voiceless [k]
- d) voiced [u] h) voiceless [t] l) voiced [z] p) voiceless [t]

SECTION 4

- | | |
|---------------------------------|------------------------------------|
| 5. a) same: alveolar | g) different: labiodental/glottal |
| b) same: velar | h) different: labiovelar/palatal |
| c) different: bilabial/velar | i) different: bilabial/labiodental |
| d) same: alveolar | j) same: alveopalatal |
| e) different: bilabial/alveolar | k) different: alveolar/labiodental |
| f) same: alveopalatal | l) different: interdental/alveolar |

SECTION 5

- | | |
|-----------------------------|-----------------------------------|
| 6. a) same: fricative | g) different: affricate/fricative |
| b) same: stop | h) same: nasal (stop) |
| c) same: glide (continuant) | i) different: liquid/glide |
| d) same: fricative | j) same: affricate |
| e) different: liquid/stop | k) different: fricative/stop |
| f) same: fricative | l) different: fricative/affricate |

SECTIONS 4–6

7. a) voiceless velar stop [k]
 b) voiced labiodental fricative [v]
 c) voiced alveopalatal affricate [dʒ]
 d) voiced palatal glide [j]
 e) voiced velar nasal [ŋ]
 f) voiceless interdental fricative [θ]
 g) high back rounded lax vowel [ʊ]
 h) low front unrounded vowel [æ]

SECTION 6

8. (*Note: Some answers will vary according to dialect. This is a problem that should be checked in class with pronunciations elicited from students.*)
- | | |
|--|--|
| a) same: [æ] | h) same: [aj] |
| b) different: [ɑ] / [ɔ]
or same: [ɑ] | or different: [aj] / [ʌj] |
| c) different: [ɪ] / [i] | i) same: [i] |
| d) different: [ʌ] / [ɪ] | j) different: [ʌ] / [ʊ] |
| e) same: [u] | k) same: [ɪ] or different: [i] / [ɪ] |
| f) different: [ɑ] / [ɔ]
or: [ɑ] / [o] | l) same: [ow] |
| g) different: [ɛ] / [ej]
or same: [ɛ] | m) same: [ɔ]
or: [o] |
| | n) same: [aw]
or different: [ʌw] / [aw] |

SECTIONS 4–6

9. (*Note: Other answers may be possible.*)
- a) [p, t, k, g, ?] are all stops.
 b) [i, e, ɛ, æ] are all front vowels.

- c) [ʃ, ʒ, ʒ, ʒ] are all alveopalatals (stridents).
 d) [p, b, m, f, v] are all labials.
 e) [ʌ, ə, ʊ, a] are all back vowels.
 f) [h, ʔ] are both voiceless glottals.
 g) [u, o] are both back rounded vowels.
 h) [s, z, ʃ, ʒ, ʒ, ʒ] are all stridents.
 i) [l, r, m, n, ŋ, j, w] are all sonorants.
 j) [t, d, l, r, n, s, z] are all alveolars.

SECTIONS 5.5, 7

10. (*Note:* Some variation is to be expected, especially in certain vowels in unstressed syllables, such as (c) and (s), which may fluctuate between [ʌ] and [ə] as their initial vowel.)
- | | | |
|----------------------|-------------------------------------|--------------------------------|
| a) tog [tʰɑg] | i) peel [pʰil] | q) spell [spɛl] |
| b) kid [kʰɪd] | j) stun [stʌn] | r) cord [kʰɔɹd]
[kʰoɹd] |
| c) attain [ətʰejn] | k) Oscar [ɑskɹ] | s) accord [əkʰɔɹd]
[əkʰoɹd] |
| d) despise [dɛspajz] | l) cooler [kʰulɹ] | t) astound [əstawnd] |
| e) elbow [ɛlbɔw] | m) sigh [saj] | u) pure [pjurɹ] |
| f) haul [hɔl]/[hɑl] | n) hulk [hʌlk] | v) wheeze [wiz]/[wɪz] |
| g) juice [ʒus] | o) explode [ɛksplɔwd]
[ɪksplɔwd] | w) remove [rɪmuv] |
| h) thimble [θɪmbɫ] | p) tube [tʰub]
[tjub] | x) clinical [klɪnɪkɫ] |

SECTION 8.1

11. (*Note:* Just one of several possible intonations is given here.)

H L H
 | | |
 a) 'Hi, Alice.'

H L H L HL
 | | | | |
 b) 'Three people got off the bus at the last stop.'

H L H L
 | | | |
 c) 'My uncle likes to mountain climb.'

SECTION 8.3

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|----------------|---------------|-----------------|
| 12. a) súunny | f) arríve | k) sécret |
| b) banána | g) defý | l) excéed |
| c) bláckbòard | h) sùmmary | m) sùmmery |
| d) Cánada | i) Canáidian | n) Canáidianize |
| e) (to) rejéct | j) (a) réject | o) dífficult |

SECTION 10 and bedfordstmartins.com/linguistics/phonetics, the section on **IPA vowels and consonants**, and **Tables 2.28 and 2.29**

13. Answers will vary.

SECTION 9

- 14. a) metathesis
- b) deletion
- c) dissimilation
- d) (full) assimilation
- e) (voicing) assimilation
- f) metathesis
- g) deletion

SECTION 9

15. Differences between careful and rapid speech are underlined.

	<i>Careful speech</i>	<i>Rapid speech</i>
a) assimilation	[ɪ <u>n</u> <u>m</u> aj]	[ɪ <u>m</u> <u>m</u> aj]
b) deletion and vowel reduction	[si <u>ð</u> ɛ <u>m</u>]	[si <u>ə</u> m]
c) deletion and vowel reduction	[si <u>h</u> ɪ <u>m</u>]	[si <u>ə</u> m]
d) (intervocalic) voicing	[wɪ <u>θ</u> ɪn]	[wɪ <u>ð</u> ɪn]
e) (unstressed schwa) deletion	[bəl <u>ʊ</u> nz]	[b <u>l</u> unz]
f) deletion (of unstressed vowel) and syllabification of liquid	[k ^h ɛ.ɹ <u>ʊ</u>]	[k ^h ɛ.ɹf]
g) deletion of either [t] or [d]; flapping	[sɪ <u>t</u> <u>d</u> awn]	[sɪ <u>ɾ</u> awn]

(Note: There is no way to tell which of the consonants deletes. One could even argue that they coalesce into a single consonant [though coalescence is not dealt with in this chapter]. In any event, only a single [t] or [d] flaps in English, so it is important to include deletion in the list of processes and follow it with flapping.)

h) (consonant) deletion	[ə <u>d</u> vajs]	[ə <u>v</u> ajs]
i) metathesis (and deaspiration)	[sk <u>ɑ</u> tɹ <u>t</u> heɪp]	[k ^h ɑt <u>s</u> teɪp]
j) deletion of [ow] and syllabification of [ɹ]	[pɪ <u>o</u> w ^h ɛk <u>f</u> ŋ]	[pɪ ^h ɛk <u>f</u> ŋ]

(Note: The author interprets this as metathesis of the *r* and following vowel followed by the reduction of the unstressed [ow] to [ə].)

k) These changes are best interpreted as a series of steps:

- assimilation (for nasality) [hænd mi] → [hæ̃nd mi]
- (consonant) deletion [hæ̃nd mi] → [hæ̃ɲ mi]