(A) Explain how the properties of pidgins and creoles indicate that children re-invent language rather than learn it.

A pidgin is not a language, but a means of communication that uses words. It does not use grammar or have word tenses. A creole is a language created from a pidgin (the creole has grammar and word tenses). In some situations (e.g., deaf children brought together by the Nicaraguan government), children are only exposed to a pidgin and not to a real language (for the deaf children, earlier children at the school created a pidgin on the playground). New deaf children to the school learned the pidgin and then invented a language from that pidgin. This is an example of children inventing a language rather than just learning to speak a language this already exists.

Although children usually have a language being spoken around them, the ability to create a language when one does not exist, suggests that children actually re-invent the language around them rather than simply learn what already exists. This ability also explains how children can “know” aspects of a language that they could not have learned from people around them. For example, a deaf child with deaf parents might “speak” sign language better than his parents.
(B) Describe the CogLab word superiority experiment and explain the significance of the typical results.

On each trial the subject saw two sets of letters that either formed words or not. The task was to judge whether the two sets were identical or different in one letter (e.g., trip — trap, or phte — phke). The program measured how quickly people could make their judgment (and how accurate their responses were). The main finding is that people make faster judgments when the sets form words.

This is a strange result because the task is essentially a visual one, one simply has to look at the letters. Moreover, reading the words presumably requires looking at each letter in the word, so it would seem that taking the extra step to actually read the letters as a word would always take longer than only looking at the letters. The fact that it seems to be easier to judge letters when they are part of a word than when they are not part of a word suggests that our brains have some special representation of words that give them this kind of advantage.

(C) Describe the three variables that define consonants.

Voicing: vibration of the vocal cords, or not. (e.g., sh is unvoiced, v is voiced).

Place of articulation: articulation refers to blocking the flow of air. The place of articulation is where the flow of air is block. It can happen in several different places. For example, for the d sound, the tip of the tongue presses against the top of the mouth, just behind the teeth. In the b sound, the lips press together. In the v sound the upper lip presses against the lower teeth.

Manner of articulation: the blocking of the flow of air can be of several forms. A stop consonant is when the flow of air is completely blocked and then released (e.g., a d, b, or p sound). A partial block of air occurs for consonants like s, l, r, and v.
(D) Explain how distributed processing in the brain makes it rather pointless to look for the place or moment of conscious experience.

Different parts of the brain know different things at different times. If a spot of light appears on a way and a person has to say “I see it” as soon as possible, it is obvious that they must have been aware of the light before they organize their speech to say the words. It is also obvious that they are not aware of the light when it hits the photoreceptors in their eyes. In between sensation and the statement, it does not really make sense to say that the “brain” (or the individual) is aware of the spot of light. When area V1 in visual cortex has knowledge about the spot of light, the frontal lobe or Broca’s area might not (yet) have such knowledge. The fact is that for a complex system like the human brain, “awareness” is not really a property of the whole system.

References to the British empire or to the example in class would also be good answers to this question.

The following multiple choice questions are worth 2 points each. Enter your answer on the scantron sheet. Enter only one choice for each question.

(1) Which statement is true in the broadest sense?:
(a) language is an instinct and unaffected by culture.
(b) language is entirely created by culture.
(c) the general ability to have language is instinctual, the specific language you use is influenced by culture.
(d) the specific language you use is instinctual.

(2) We can be confident that children do not learn language only by mimicking speakers around them because:
(a) children make mistakes.
(b) children follow most of the rules most of the time.
(c) children generate mistakes that they would never hear speakers make.
(d) adults make mistakes too.

(3) Which of the following is the correct form of English?
(a) Standard American English.
(b) British English.
(c) African American Vernacular English.
(d) none of the above.
(4) Grammar refers to:
(a) symbols.
(b) words.
(c) the order of words.
(d) meaning.

(5) A phrase must be grammatically correct to be:
(a) meaningful.
(b) understood.
(c) spoken.
(d) part of language.

(6) A phrase tree is a visual description of:
(a) a re-write rule.
(b) non-sense sentences.
(c) creole.
(d) a long-term dependency.

(7) When we learn a new word, we are usually able to immediately use it in lots of different ways. This ability is most closely related to:
(a) meaning.
(b) phrase trees.
(c) ambiguity.
(d) long-term dependency.

(8) The term language universal refers to:
(a) all languages using the same grammar.
(b) relationships across different languages about characteristics of grammars.
(c) the stages of language development going from creole to pidgen to language.
(d) dealing with long-term dependencies.

(9) The wug test demonstrates that children:
(a) know some rules for words.
(b) recognize that words are arbitrarily related to concepts.
(c) cannot learn new words.
(d) do not know about suffixes.

(10) The limited English morphology of verbs means that English speakers:
(a) use a phrase to communicate what other languages would say with a suffix.
(b) cannot think about some concepts.
(c) have to generate lots of new words.
(d) have a smaller lexicon.

(11) Which of the following is not a morpheme?:
(a) the word chair.
(b) the suffix -ing.
(c) the prefix re-.
(d) the syllable twi.
(12) A word without any suffixes or prefixes is called a:
   (a) head.
   (b) core.
   (c) root.
   (d) morpheme.

(13) That sentences can be ambiguous lead us to conclude that thoughts:
   (a) must involve speaking to yourself.
   (b) need a parser.
   (c) cannot *only* involve speaking to yourself.
   (d) have long-term dependencies.

(14) A key difficulty in parsing a sentence like *The plastic pencil marks...* is that:
   (a) the phrase is not grammatical.
   (b) the spelling does not match the pronunciation.
   (c) many of the words are ambiguous.
   (d) concepts are not definitions.

(15) In some cases, proper language is not enough to insure communication. This is because:
   (a) even grammatically correct sentences can be ambiguous.
   (b) sentences also require meaning.
   (c) some words are headless.
   (d) the parser is not the same as the language generator.

(16) In some cases, proper language is not enough to insure communication. This is because:
   (a) some sentences are not created by re-write rules.
   (b) long-term dependencies cannot be parsed.
   (c) some grammatically correct sentences cannot be parsed.
   (d) some words do not have a root.

(17) You can “hear” a person smile because smiling:
   (a) causes co-articulation.
   (b) interferes with parsing.
   (c) changes the frequencies contributing to certain sounds of speech.
   (d) produces a specific phoneme.

(18) Because of co-articulation, when a speaker quickly says something at 25 phonemes per second, she actually:
   (a) says close to 30 phonemes.
   (b) says less than 20 sounds.
   (c) generates ambiguous words.
   (d) uses a schema to remove ambiguities.

(19) Because of co-articulation, when a speaker intends to say something at 25 phonemes per second, the *listener* typically:
   (a) interprets the sounds as having 25 phonemes.
   (b) does not understand what was said.
   (c) cannot distinguish some consonants.
   (d) cannot parse the sentence.
(20) Computer speech sounds funny to us because the computer-made sounds:
(a) are not emotive.
(b) are not properly co-articulated.
(c) do not take into account long-term dependencies.
(d) lack schemas.

(21) A word pair like *hocus-pocus* or *namby-pamby* follows what rule about the first word compared to the second word?:
(a) the first word has a leading consonant that comes earlier in the alphabet.
(b) the first word was acquired at a younger age.
(c) the first word has a leading consonant that impedes airflow least.
(d) the first word is harder to say.

(22) An advantage of the written Korean hangul compared to written English letters is that:
(a) the shapes indicate how to pronounce the speech.
(b) there are fewer symbols.
(c) the shapes are pictures that describe the concept of the word.
(d) the shapes remove the need for co-articulation.

(23) At birth, infants:
(a) can discriminate essentially all possible phonemes.
(b) know some basic properties of grammar.
(c) could speak if they had enough muscle control.
(d) follow most of the rules most of the time.

(24) Learning a second language is easiest at which age?:
(a) kindergarten.
(b) elementary school.
(c) high school.
(d) after college.

(25) English spelling often deviates from pronunciation. To a large extent this deviation reflects:
(a) long-term dependencies.
(b) word ambiguity.
(c) co-articulation.
(d) re-write rules.

(26) How do we know that children’s language mistakes correspond to difficult parts of language?:
(a) chimps also cannot learn these parts of language.
(b) they tend to be learned late in life.
(c) Broca’s aphasics show the same kind of mistakes.
(d) adults show the same kind of mistakes.

(27) A person with anomia:
(a) cannot form grammatical sentences.
(b) has trouble coming up with words.
(c) shows fluid or empty speech.
(d) cannot parse sentences.
(28) The main conclusion of studies on chimp language skills was that chimps cannot:
   (a) learn language.
   (b) learn words.
   (c) communicate with humans.
   (d) understand any spoken phrases.

(29) A problem with the Turing test for consciousness is that:
   (a) the mind-body problem is not real.
   (b) some things that are considered to be conscious do not pass the test.
   (c) there may be no place in the brain where something becomes conscious.
   (d) modern computers can pass the test but are not conscious.

(30) I bought a training collar for my dog that gives a low (I hope) shock. My concern about the feeling of shock is related to:
   (a) qualia.
   (b) the Turing test.
   (c) dualism.
   (d) distributed processing.