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Unit 3 Homework

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1. Which of the following options is the best way to punctuate this sentence?

1 / 1 point

- Microarray users acknowledge that an all-inclusive finger-prick test is unlikely to materialize anytime soon, but they have a more modest goal for their next decade (to streamline their search for meaning in a vast sea of data).
- Microarray users acknowledge that an all-inclusive finger-prick test is unlikely to materialize anytime soon, but they have a more modest goal for their next decade; to streamline their search for meaning in a vast sea of data.
- (selected) Microarray users acknowledge that an all-inclusive finger-prick test is unlikely to materialize anytime soon, but they have a more modest goal for their next decade: to streamline their search for meaning in a vast sea of data.

Correct
This answer is correct. The colon sets up the goal statement. A dash would also work here, but a colon is slightly better because it specifically indicates that the goal statement will follow.

2. Which of the following options is the best way to punctuate this sentence?

1 / 1 point

- (selected) They fit a model only on a portion of the dataset (called the training set) and then test its discriminatory ability on the untouched data (called the validation or test set).
- They fit a model only on a portion of the dataset; called the training set; and then test its discriminatory ability on the untouched data; called the validation or test set.
- They fit a model only on a portion of the dataset—called the training set—and then test its discriminatory ability on the untouched data—called the validation or test set.
- They fit a model only on a portion of the dataset: called the training set; and then test its discriminatory ability on the untouched data: called the validation or test set.

Correct
This answer is correct. Parentheses work best here to stick in the extra information about the names of the datasets.

3. Read this sentence: "This light detection changes the Phytochrome's conformation between a state under red light that binds directly to a phytochrome interacting factor (PIF) and a state under infrared light that doesn't bind to PIF." This sentence suffers from all of the following problems EXCEPT:

1 / 1 point

- (selected) Unparallel sentence structure
- Lack of clarity
- Needless wordiness

Correct
This is the correct answer. The sentence does not contain unparallel sentence structure.

4. Identify one key problem with this sentence: "The concern expressed by the reviewers that the study had insufficient statistical power to find clinically meaningful effects lacks merit."

1 / 1 point

- The sentence is incomplete.
- (selected) The subject and main verb are too far apart.
- This sentence lacks parallelism.
- The word "effects" should be replaced with "affects."

Correct
This answer is correct. The subject (concern) is too far from the predicate (lacks merit).

5. Identify one key problem with the following sentence: "The initial symptoms of Alzheimer's disease are difficulties learning new material and in memory for recent events."

1 / 1 point

- The sentence is incomplete.
- (selected) The sentence lacks parallel structure.
- The sentence is in the passive voice.
- The sentence contains unnecessary adverbs.

Correct
This answer is correct. The two items in the list don't match: "difficulties" is a noun, whereas "in memory" starts with a preposition. To fix, you could rewrite as: "The initial symptoms of Alzheimer's disease are difficulties learning new material and difficulties remembering recent events." (noun, noun)

6. Identify one edit that would improve this sentence: "Our study offers confirmation of the link between breast cancer and moderate alcohol consumption."

1 / 1 point

- Remove the word "Our"
- Replace "breast cancer" with "breast carcinoma"
- Replace the word "link" with the word "association"
- (selected) Shorten the phrase "offers confirmation of"

Correct
This is the correct answer. Offers confirmation of may be shortened to confirms: "Our study confirms the link between breast cancer and moderate alcohol consumption."

7. Which of the following edits would most improve this sentence: "The mutant fungal cells showed profuse proliferation throughout the plant, whereas the infected plants showed poor growth and often died."?

1 / 1 point

- Bring the subject and main verb of the sentence closer together.
- Use the abbreviation MFS instead of writing out "mutant fungal cells."
- Eliminate the adverb "often."
- (selected) Change the nouns "proliferation" and "growth" into verbs.

Correct
This is the correct answer. Rewrite as: "The mutant fungal cells proliferated profusely throughout the plant, while the infected plants grew poorly and often died."

8. Questions 8-11 have many possible answers. Use your best judgment to infer the author's intent. Grading is based on completion only. After submission, you should check your work by comparing your answer with the model answer provided.

1 / 1 point

What do you think is the main idea of the following paragraph? Summarize the main idea in a single sentence.

Neuropeptides are important mediators in the functionality of the brain and other neurological organs. Because neuropeptides exist in a wide range of concentrations, appropriate characterization methods are needed to provide dynamic, chemical, and spatial information. Mass spectrometry and compatible tools have been a popular choice in analyzing neuropeptides. There have been several advances and challenges, both of which are the focus of this review. Discussions range from sample collection to bioinformatic tools, although avenues such as quantitation and imaging are included. Further development of the presented methods for neuropeptidomic mass spectrometric analysis is inevitable, which will lead to a further understanding of the complex interplay of neuropeptides and other signaling molecules in the nervous system.

There are several advances and disadvances when using mass spectrometry to analyze neuropeptides.

Correct
Model Answer:

This review discusses the advantages and challenges of using mass spectrometry for analyzing neuropeptides, important signaling molecules in the nervous system.

9. Revise the following passage. Condense material to a single sentence; remove repetition; and correct parallelism.

1 / 1 point

Several limitations should be noted. Major limitations are the incomplete sample participation in young adulthood, possible unmeasured underlying susceptibility factors, (e.g., familial influences), and some researchers might question the reliability of the TD instrument for measuring drug dependence.

Researchers should note major limitations to measure drug dependence: low sample participation in young adulthood; possible unmeasured underlying susceptibility factors (e.g., familial influences); concerns about the reliability of the TD instrument.

Correct
Model Answer:

Major limitations include low participation by young adults, possible unmeasured susceptibility factors (e.g., familial influences), and concerns about the reliability of the TD instrument.

10. Revise the following passage to improve parallelism, clarity, and brevity:

1 / 1 point

Waste stabilization ponds have been studied under many different climatic conditions on all six inhabited continents. The main findings have concluded that ponds: (1) have higher removal efficiencies in warm, sunny climates, (2) should be situated far enough from human populations to prevent unnecessary human health risks and nuisance conditions, and (3) located in areas with high winds may require baffles or wind breaks to ensure optimal performance.

We studied waste stabilization under many different climatic conditions on all six inhabited continents and concluded that ponds: have higher remover efficiencies if is in warm, sunny climates; prevent unnecessary health risks and nuisance conditions if is situated far enough from human population; require baffles or windbreaks to ensure optimal performance if is located in areas with high winds.

Correct
Model Answer:

Studies conducted across six continents have concluded that waste stabilization ponds: (1) have higher removal efficiencies in warm, sunny climates; (2) should be situated far enough from human populations to prevent health risks and nuisance; and (3) may require baffles or wind breaks to ensure optimal performance in stormy areas.

11. Revise the following paragraph for clarity and brevity:

1 / 1 point

Prior to calculating suicide rates that are stratified by church membership and activity level, records from the state and from the church needed to be linked. However, state death records and church records do not share a common unique identifier. In order to link records from these two sources, we used the probabilistic linking program LinkedPro7 (17). This program calculates probabilities to determine whether a pair of records refers to the same person.

We need to link records from the state and church to calculating suicided rates that do not share a common unique identifier. To do such things, we calculate probabilities to pair the records match using LinkPro7 (17).

Correct
Model Answer:

To calculate suicide rates according to church membership and activity, we had to link state death records with church membership records. These sources do not share a common identifier; so, we linked them using LinkedPro7 software (17), which calculates the probability that a pair of records match.