

## Exercises for 1.1 through 1.4

1. Which of the following are sentences in the sense used in this course?
  - (a) Who wants to live forever?
  - (b) I wonder whether anyone wants to live forever.
  - (c) Life might have existed on Mars.
  - (d) If God is dead, what is the point of morality?
  - (e) If it is true that God is dead, what is the point of morality?
  - (f) Can you close the window for me?
  - (g) I would like you to close the window.
  - (h) Please close the window.

### Answer Key

b, c, g

2. Characterize each of the following as a compound of two atomic sentences (there might be multiple ways of doing it).
  - Some countries are resource rich and some other countries are resource poor.
  - Venus shares many characteristics with Earth but Venus is uninhabitable.
  - If you have taken PHIL60, then you have fulfilled the Area 5 requirement.
  - The Taj Mahal is a much admired architectural complex but some people consider it kitschy and some politicians claim that it does not represent Indian culture.

### Answer Key

- ⟨Some countries are resource rich⟩ and ⟨some other countries are resource poor⟩.
- ⟨Venus shares many characteristics with Earth⟩ but ⟨Venus is uninhabitable⟩.
- ⟨If you have taken PHIL60⟩, then ⟨you have fulfilled the Area 5

requirement).

- (a) ⟨The Taj Mahal is a much admired architectural complex⟩ but ⟨some people consider it kitschy and some politicians claim that it does not represent Indian culture⟩.

OR:

- (b) ⟨The Taj Mahal is a much admired architectural complex but some people consider it kitschy⟩ and ⟨some politicians claim that it does not represent Indian culture⟩.

3. Sometimes a sentence that does not look like a compound sentence can be reformulated as a compound sentence. E.g., “Marie Curie was a Polish scientist” can be reformulated as “Marie Curie was Polish and Marie Curie was a scientist”. Turn each of the following into a compound sentence with two atomic sentences.

- (a) Tokyo in the summer is hot and humid.
- (b) Cuneiform was used to write Sumerian as well as Akkadian.
- (c) The Holy Roman Empire was neither holy nor Roman.
- (d) The culprit was the butler or the cook.
- (e) You can satisfy the Area 5 requirement by taking logic or by taking calculus.

### Answer Key

- (a) ⟨Tokyo in the summer is hot⟩ and ⟨Tokyo in the summer is humid⟩.
- (b) ⟨Cuneiform was used to write Sumerian⟩ and ⟨cuneiform was used to write Akkadian⟩.
- (c) ⟨The Holy Roman Empire was not holy⟩ and ⟨the Holy Roman Empire was not Roman⟩.
- (d) ⟨The culprit was the butler⟩ or ⟨the culprit was the cook⟩.
- (e) ⟨You can satisfy the Area 5 requirement by taking logic⟩ and ⟨you can satisfy the Area 5 requirement by taking calculus⟩.

**Note on (e):**

Original: You can satisfy the Area 5 requirement by taking logic or by taking calculus.

A: You can satisfy the Area 5 requirement by taking logic

B: you can satisfy the Area 5 requirement by taking calculus

<i>A</i>	<i>B</i>	A or B	<i>A</i>	<i>B</i>	A and B	<i>A</i>	<i>B</i>	Orig.
<i>T</i>	<i>T</i>	<i>T</i>	<i>T</i>	<i>T</i>	<i>T</i>	<i>T</i>	<i>T</i>	<i>T</i>
<i>F</i>	<i>T</i>	<i>T</i>	<i>F</i>	<i>T</i>	<i>F</i>	<i>F</i>	<i>T</i>	<i>F</i>
<i>T</i>	<i>F</i>	<i>T</i>	<i>T</i>	<i>F</i>	<i>F</i>	<i>T</i>	<i>F</i>	<i>F</i>
<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>	<i>F</i>

The third table gives the natural understanding of the original and it is the same as  $\langle A \text{ and } B \rangle$ , not  $\langle A \text{ or } B \rangle$ .

4. State the truth conditions for  $\langle \text{neither } A \text{ nor } B \rangle$  in table form.

<b>Answer Key</b>	<i>A</i>	<i>B</i>	neither A nor B
	<i>T</i>	<i>T</i>	<i>F</i>
	<i>F</i>	<i>T</i>	<i>F</i>
	<i>T</i>	<i>F</i>	<i>F</i>
	<i>F</i>	<i>F</i>	<i>T</i>

5. State the truth conditions for  $\langle A \text{ but not } B \rangle$  in table form.

<b>Answer Key</b>	<i>A</i>	<i>B</i>	A but not B
	<i>T</i>	<i>T</i>	<i>F</i>
	<i>F</i>	<i>T</i>	<i>F</i>
	<i>T</i>	<i>F</i>	<i>T</i>
	<i>F</i>	<i>F</i>	<i>F</i>