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## *SOLUTIONS TO SELECTED EXERCISES*

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### CHAPTER ONE

#### **Section 1.2E**

1.a. This sentence does have a truth-value and does fall within the scope of this text. It is false if by 'second President of the United States' we mean the second person to hold the office of President as established by the Constitution of the United States. However, it is true if we mean the second person to bear the title 'President of the United States', as the Articles of Confederation, which predate the Constitution, established a loose union of states whose first and only president, John Hanson, did bear the title 'President of the United States'.

c. This is a request or command, as such it is neither true nor false, and therefore does not fall within the scope of this text.

e. This sentence does have a truth-value (it is true) and does fall within the scope of this text.

g. This sentence does have a truth-value and does fall within the scope of this text. It is false, as Bill Clinton is the President who immediately preceded George W. Bush.

2. a. When Mike, Sharon, Sandy, and Vicky are all out of the office no important get made.

Mike is off skiing.

Sharon is in Spokane.

Vicky is in Olympia and Sandy is in Seattle.

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No decisions will be made today.

- c. This passage does not express any obvious argument. It is best construed as a series of related claims about the people in the office in question.

- e. To repair the deck box we need stainless steel screws.

All the screws we have are in the nail and screw cabinet.

The first drawer contains only galvanized nails, the second, only ordinary nails, the third, only drywall screws. And the fourth and bottom drawer contains only brass screws.

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We won't be able to repair the deck box.

- g. This passage does not express an obvious argument, though it might be claimed that the last sentence, 'So why are you unhappy?' is rhetorical and has here the force of 'So you should be happy', yielding the following argument:

The weather is perfect; the view is wonderful; and we're on vacation.

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You should be happy.

- i. If Sarah did the wiring it was done right, and if Marcie did the plumbing, it was done right.

Neither the wiring nor the plumbing was done right.

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Sarah didn't do the wiring and Marcie didn't do the plumbing.

- k. Whatever is required by something that is good is itself a good. Being cured of cancer is a good.

Being cured of cancer requires having cancer.

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Having cancer is a good.

### Section 1.3E

1.a. True. 'Whatever will be, will be' is logically true. Therefore, any argument that has it as a conclusion cannot have a false conclusion, and, hence, cannot have true premises and a false conclusion. Any such argument is, therefore, deductively valid.

c. False. Though the conclusion of this argument is logically false there are logically valid arguments with logically false conclusions. For example, if the present argument has as one of its premises 'Debby is considerate and Debby is not considerate', a logically false sentence, then it is impossible for all the premises of the argument to be true, and hence impossible for all the premises to be true and the conclusion false. Such an argument is logically valid.

2.a. An argument is logically valid if and only if it is impossible for its premises to be true and its conclusion false. If one of the premises of an argument is logically true it may or may not be possible for the other premises (if any) to be true and the conclusion false. So the given argument may or may not be logically valid. If the logically true premise is the only premise and the conclusion is logically indeterminate, it will be possible for all the premises to be true and the conclusion false, and the argument will be logically invalid. But if the conclusion is logically true then it will be impossible for all the premises to be true and the conclusion false and the argument will be logically valid.

c. If an argument has a logical truth as its conclusion then it is not possible for that conclusion to be false, and hence it is not possible for all the premises to be true and the conclusion false. So the argument is logically valid. But it will be sound if and only if all of its premises are true, which may or may not be the case. So not all such arguments are sound.