第　1　講

次の英文を読んで，設問に答えよ。

Like many students, Kimberly Fenn has pulled more than a few all-nighters, cramming facts into her head for the next day's exam, fighting exhaustion and gravity to keep her eyelids from closing. Her parents always told her she'd be better off with a good night's sleep. But it was only this past year, as a psychology graduate student at the University of Chicago, that Fenn learned how true (1)that was. She tested two groups of undergraduates on their ability to learn a *gibberish language. One group (the crammers) had to take a test on the same day as their training, while another group (the sleepers) were allowed a night's rest. The results were startling. The sleepers scored higher than the crammers, "like going from F's to C's," says Howard Nusbaum, Fenn's adviser and a coauthor of the study.

In her study, Fenn had her students learn a nonsense language. She started by playing a recording of a gibberish word "nawn" while flashing its English equivalent "lawn" on a screen. Then she continued to feed them other translations, like "frud" for "frog" and "snurt" for "smart." Finally, she tested them by giving them a gibberish word and asking them to figure out what the English equivalent should be. The idea was to deduce the pattern and apply it to new words. (　2　) the crammers didn't perform well, the sleeping students had a chance to consolidate the memories of their skills overnight, even if they hadn't gotten the *hang of it the day before. "At night, sleep was restoring the information they'd lost earlier in the day," says Nusbaum. (3)"It was solidifying what they had learned."

Exactly how the brain consolidates and retrieves lost memories during sleep is still something of a mystery. (4)One theory holds that sleep allows the brain to get rid of irrelevant information picked up during the day that can interfere with its ability to retrieve more important memories. An alternate theory says that sleep gives the brain access to memories it simply couldn't get to the day before. This suggests that forgotten experiences "aren't actually gone," says Fenn; they just sometimes can't be retrieved until they've made the leap to long-term memory.

Another question is (　5　). Dan Margoliash, a University of Chicago professor,