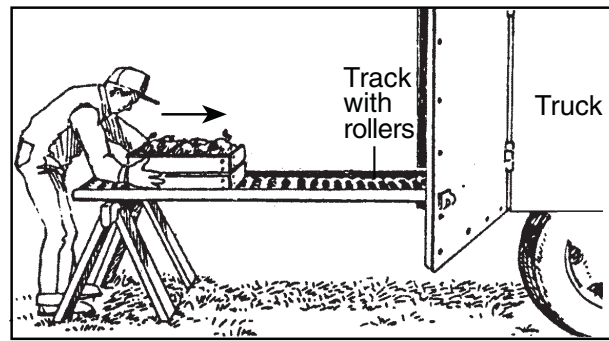
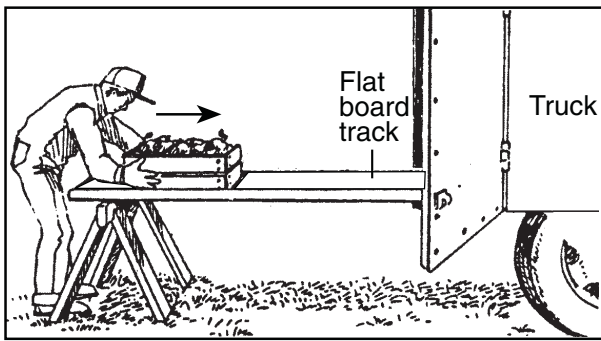


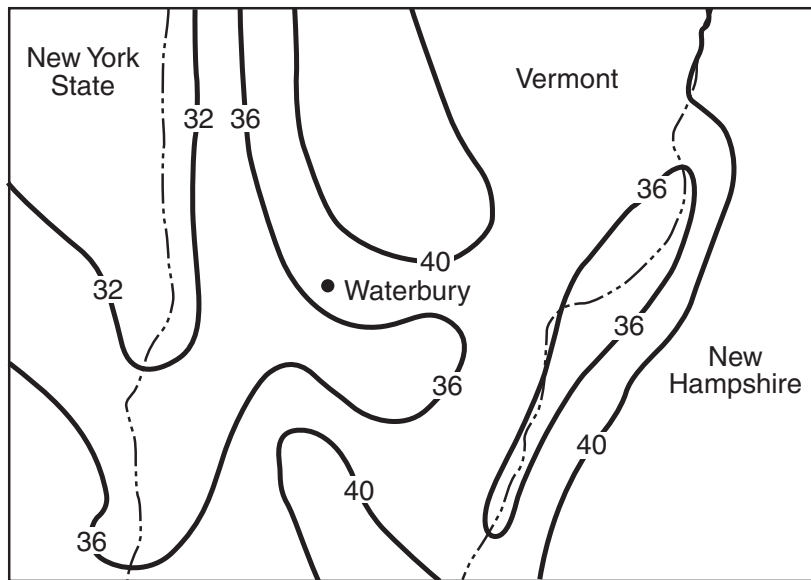
44 The diagrams below show two ways of loading a box into a truck.



The person using the track with the rollers uses less energy to load the box because the rollers reduce the

- (1) mass of the box
- (2) distance traveled by the box
- (3) force of gravity
- (4) force of friction

45 The map below shows the total rainfall, in inches, for parts of New York State, Vermont, and New Hampshire over one year. The numbered dark lines connect locations with the same amount of total rainfall. State boundaries are indicated by — · — · — · .



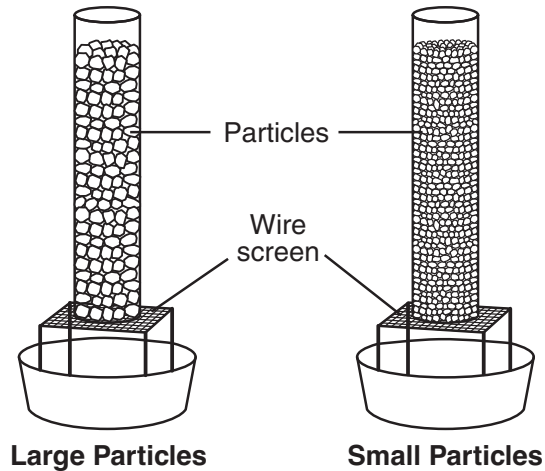
What was the probable amount of rainfall, in inches, for Waterbury, Vermont, for that year?

- (1) 35
- (2) 36
- (3) 37
- (4) 43

## Part II

*Directions* (46–81): Record your answers in the space provided below each question.

Base your answers to questions 46 and 47 on the diagram and information below and on your knowledge of science. The diagram shows an experiment conducted to see how quickly water moves through different-size particles of the same substance.



Two identical columns contained equal volumes of different-size particles. The same amount of water was added to the top of each column. A student timed how long it took for the water in each column to reach the wire screen. The data table below shows the results.

**Data Table**

| Particle Size | Time (seconds) |
|---------------|----------------|
| large         | 1.2            |
| small         | 5.0            |

46 List *two* variables that were held constant in this experiment. [2]

(1) \_\_\_\_\_

(2) \_\_\_\_\_

47 State *one* conclusion based on this experiment. [1]

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