

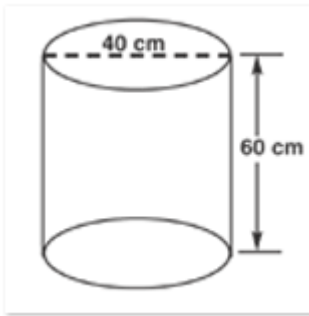
### Alternate-Format Questions

Although 80% of the mathematics questions are multiple choice, 20% of the questions require you to construct your own answer. Rather than select from five choices, you must record answers on either standard or coordinate plane grids. Both Parts I and II of the *Mathematics Test* have multiple-choice, standard grid, and coordinate plane grid questions. [Please review the directions](#) for standard grid and coordinate plane grid.

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### SAMPLE QUESTIONS

**Directions:** Choose the *one best answer* to each question.



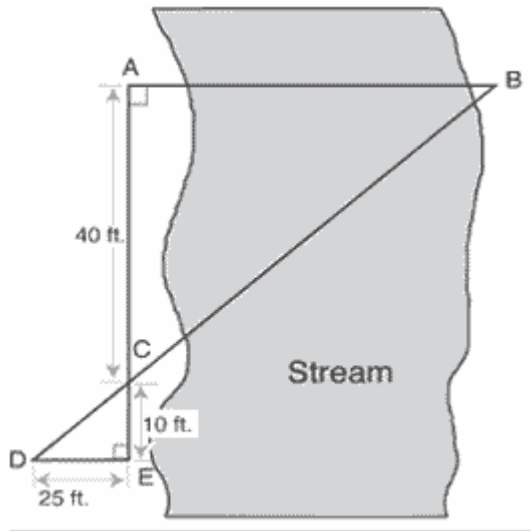
A painter mixes gallons of paint in a large cylindrical bucket so that there will be no difference in color among individual gallons.

If one gallon of paint has a volume of approximately  $8000 \text{ cm}^3$ , what is the maximum number of whole gallons of paint that can be poured into the bucket?

- 3
- 7
- 9
- 11
- 37

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A surveyor made the measurements shown in the diagram



below.

What is the measure, in feet, of AB, the straight-line distance across the stream?

- 50
- 75
- 80
- 100
- 150

Length of window in feet	Width of window in feet	Price per foot of wood trim	Cost of trim for window
A7	B7	C7	

Shane is working with a spreadsheet on his computer. The spreadsheet will calculate the cost of the wood trim around rectangular windows based on the dimensions of the window and the price of the wood. The following entries have been made.

Shane wants to enter a formula in the last column so that the spreadsheet will calculate the final cost of the job. Which of the following formulas should he enter?

- 1.  $A7 \times B7 \times C7$
- 2.  $(2 \times A7 + 2 \times B7) \times C7$
- 3.  $A7 + B7 + C7$
- 4.  $(A7 + B7) \times C7$
- 5.  $A7 \times B7 + C7$



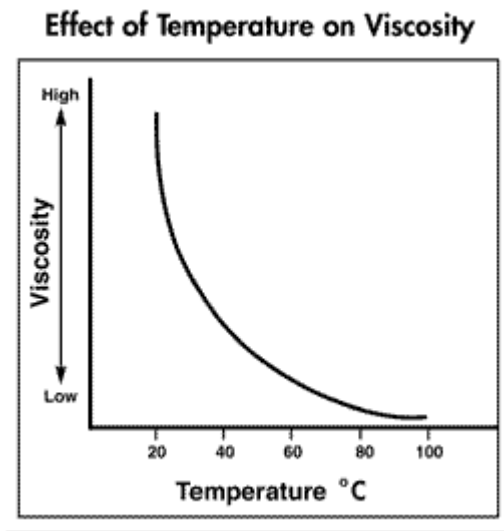
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Viscosity is a measure of the internal resistance of a fluid to flow. For example, motor oil is more viscous than water. The viscosity of a fluid will change with temperature. The graph below illustrates how the viscosity of oil changes with temperature.



Under which situation will the viscosity of the oil increase?

- 1. as temperature decreases
  - 2. when mixed with water
  - 3. as its volume decreases
  - 4. as its flow increases
  - 5. if its resistance stabilizes
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