37 The mean exam score for 31 students in a geometry class was 79. The median exam score for the same set of students was 75. Two additional students took the exam at a later time and scored 65 and 93. How did the mean and median change when these two additional scores were included?

A. The median increased and the mean stayed the same.

B. The median stayed the same and the mean increased.

C. The median and the mean both stayed the same.

D. The median and the mean increased.

38 Julia and Marcia bought identically priced cans of chili and identically priced jars of salsa to make a dip.

- Julia bought 3 cans of chili and 2 jars of salsa for $10.07.
- Marcia bought 2 cans of chili and 4 jars of salsa for $12.98.

Which of the following systems of equations could be used to find x, the cost of one can of chili, and y, the cost of one jar of salsa?

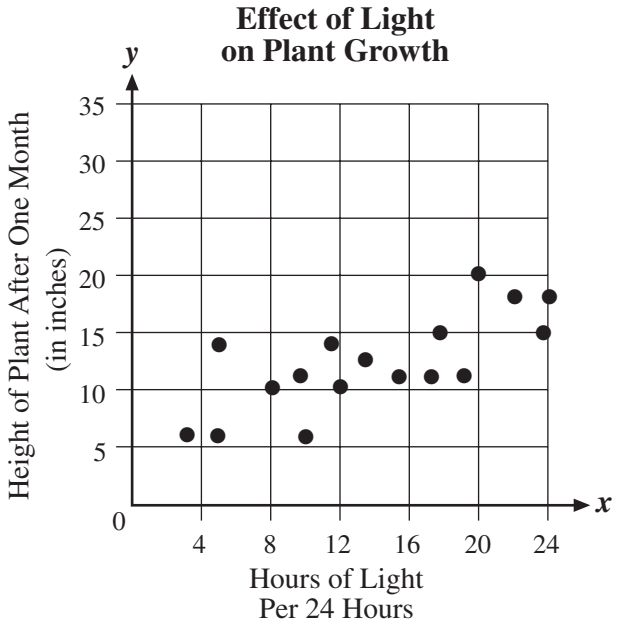
A. $x + y = 10.07$
$x + y = 12.98$

B. $10.07x + 12.98y = 11$
$x + y = 11$

C. $2x + 4y = 10.07$
$2x + 3y = 12.98$

D. $3x + 2y = 10.07$
$2x + 4y = 12.98$

39 Jenny studied the effect of light on plant growth. She graphed a scatterplot to represent her data.



Which of the following **best** represents the equation for the line of best fit for the data shown?

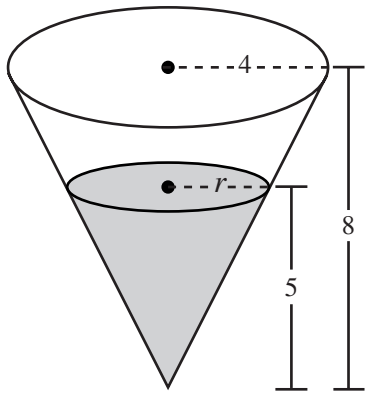
A. $y = -0.4x + 5$

B. $y = 0.4x + 5$

C. $y = -4x + 5$

D. $y = 4x + 5$

40 A cup in the shape of a cone has a height of 8 units and a radius of 4 units as shown in the figure below. The water in the cup reaches a height of 5 units.



What is the value of r, the radius of the surface of the water?

A. 1.6 units

B. 2.5 units

C. 6.4 units

D. 10.0 units

Questions 41 and 42 are open-response questions.

- **BE SURE TO ANSWER AND LABEL ALL PARTS OF THE QUESTION.**
- **Show all your work (diagrams, tables, or computations).**
- **If you do the work in your head, explain in writing how you did the work.**

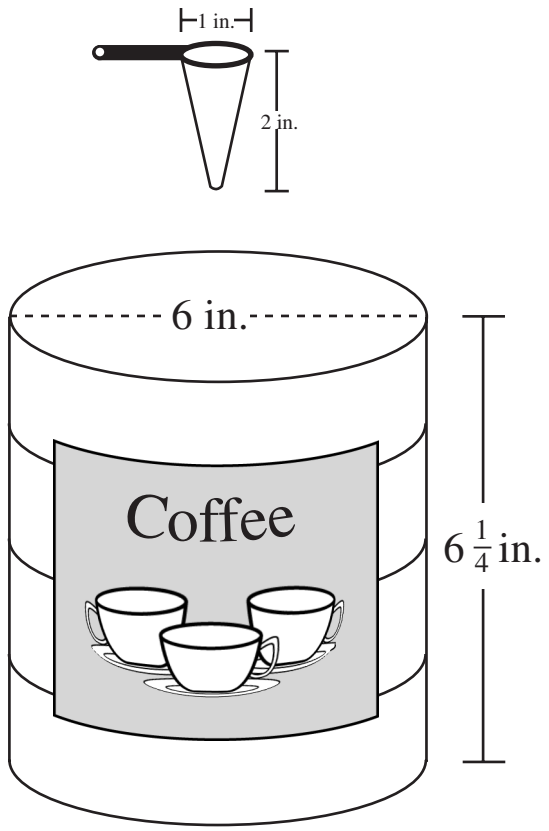
41 When a map of the Caribbean Sea is placed on a grid, Island A is represented by A (2, 1), and Island B is represented by B (6, 4). Graph and label these points on the grid in your Student Answer Booklet.

a. What is the length of line segment $\overline{AB}$ on the grid? Show or explain how you got your answer.

b. If each unit on the grid represents 12 actual miles, what is the shortest distance in miles from Island A to Island B? Show or explain how you got your answer.

c. On the same map and grid, Island C is represented by C (2, 3). Graph point C on the same grid used in part a. What is the least possible number of miles in a complete round trip of the three islands? (From A to B to C and back to A). Show or explain your answer.

42 A can shaped like a right circular cylinder holds 2 pounds of coffee and has a diameter of 6 inches and a height of $6\frac{1}{4}$ inches.



a. What is the total surface area of the coffee can? Show or explain how you obtained your answer.

b. What is the volume of the can? Show or explain how you obtained your answer.

c. A conical scoop is used to remove coffee from the can and place it into a coffee maker. The scoop has a 1-inch diameter and a 2-inch height. If one level scoop is used to make each cup of coffee, how many cups of coffee can be made from a full 2-pound can of coffee? Show or explain how you obtained your answer.