

Focus Day – Feb. 19

9th Grade FCAT Sample Test

- 1 An influenza virus is 0.00000012 meter in diameter.

Which of these expresses this distance in scientific notation?

A. 1.2×10^{-6}

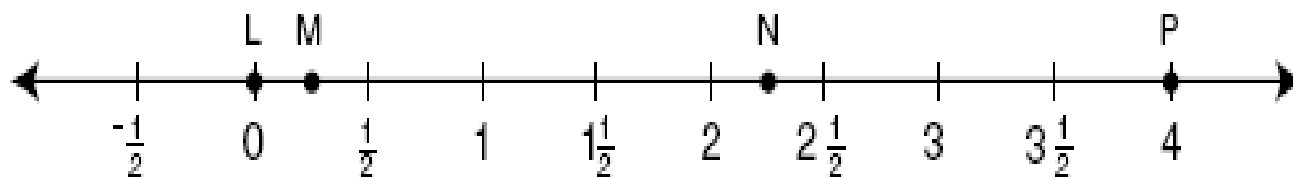
B. 1.2×10^{-7}

C. 12×10^{-6}

D. 12×10^{-7}

2

Which point on the number line represents a number that has a square root greater than itself?



F. L

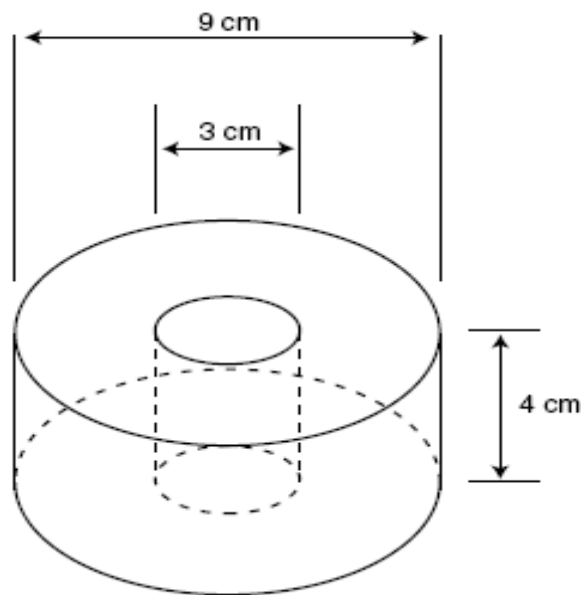
G. M

H. N

I. P

3

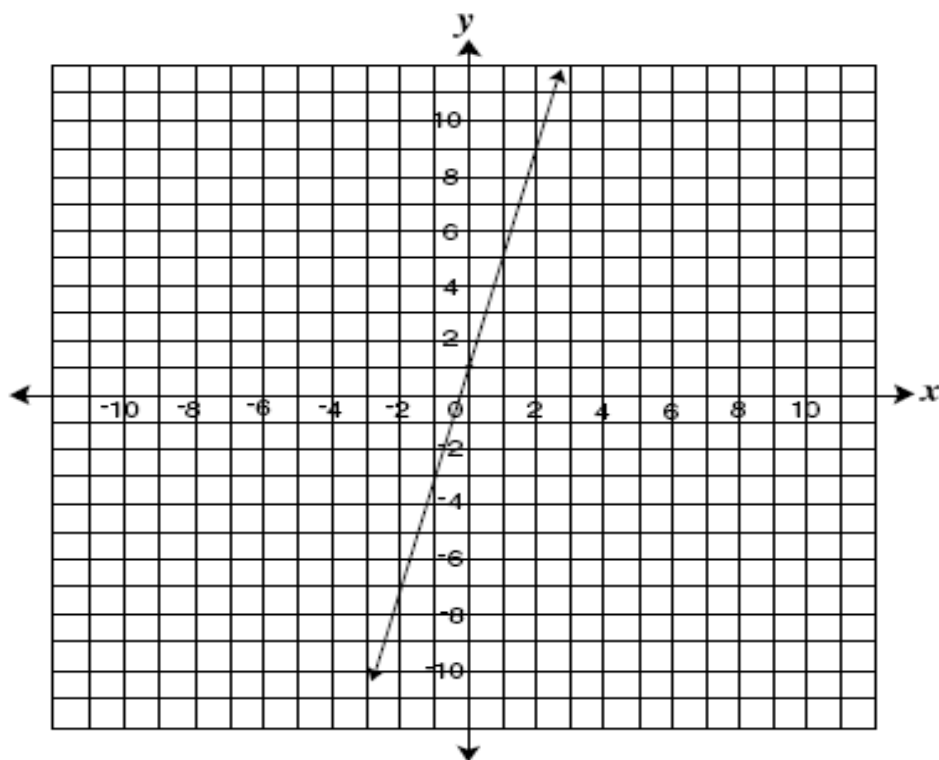
An engineer is designing a metal gasket for a spacecraft. The gasket has the shape of a cylinder with a cylindrical hole through its center. The diameter of the gasket is 9 centimeters, and its height is 4 centimeters. The diameter of the hole is 3 centimeters.



What volume of metal, in cubic centimeters, will be required to make the gasket?

- A. 16π cubic centimeters
- B. 72π cubic centimeters
- C. 81π cubic centimeters
- D. 108π cubic centimeters

- 4 The graph of $y = 4x + 1$ is shown.

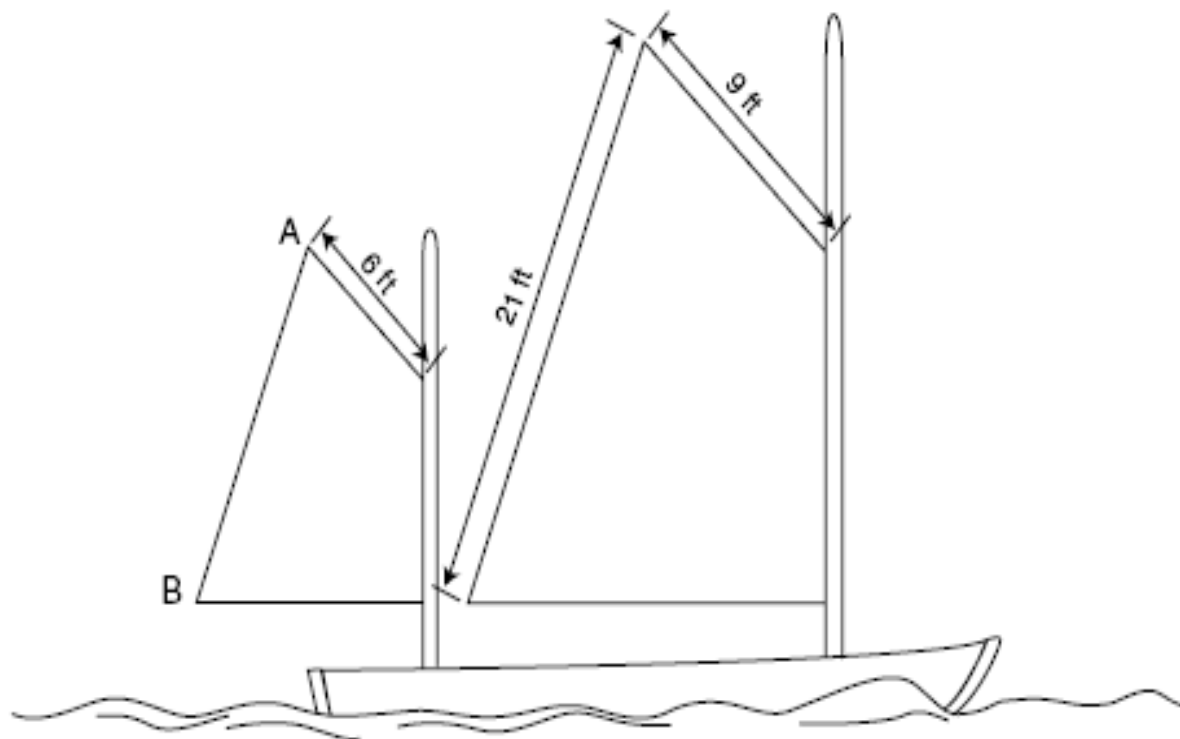


How would the graph change if the 4 in the equation were replaced with a 2?

- E. The line would be parallel with a shift up of 2 units.
- G. The line would be parallel with a shift down of 2 units.
- H. The line would have a greater slope, but it would pass through the y -axis at the same point.
- I. The line would have a lesser slope, but it would pass through the y -axis at the same point.

5

The two sails on the boat in the diagram are similar.



What is the length of \overline{AB} to the nearest foot?

6

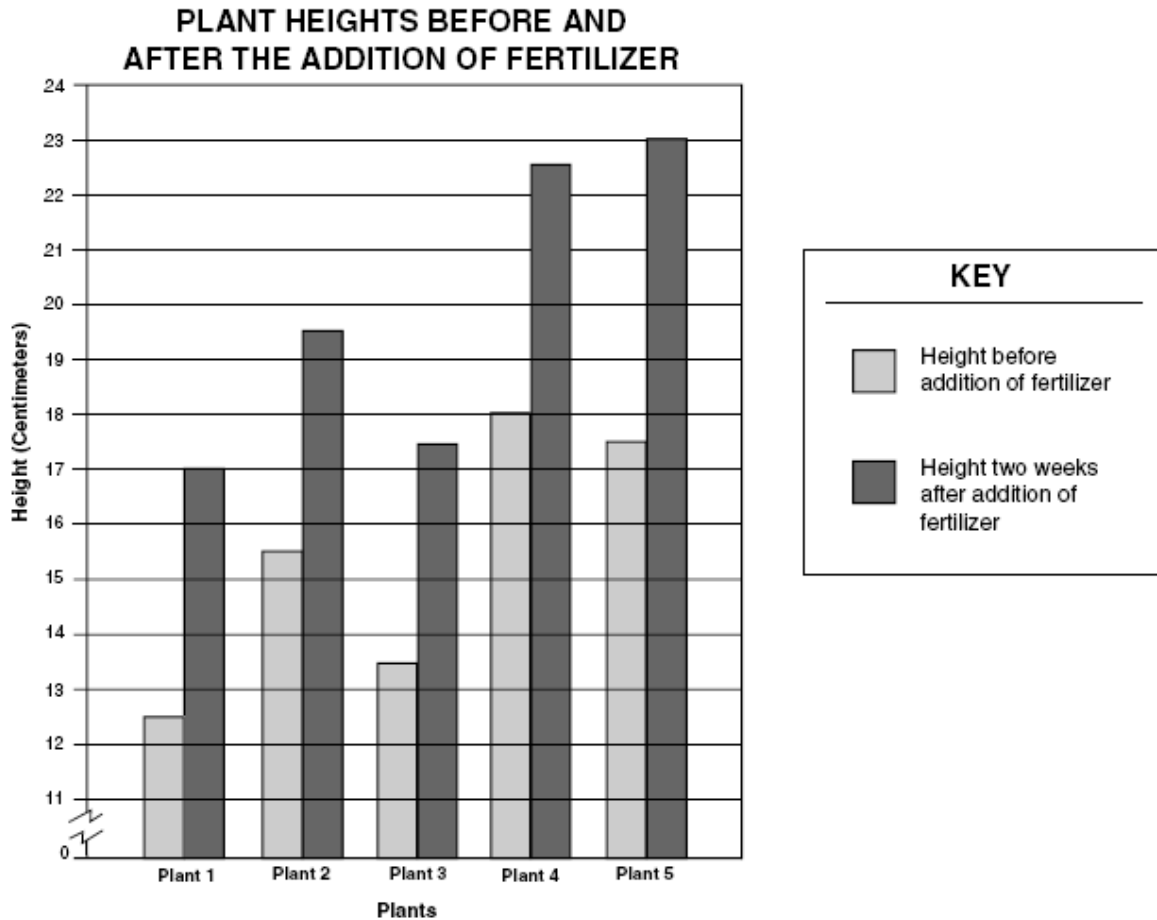
A surveyor's chain is a device used by surveyors to measure land. A surveyor's chain is exactly 22 yards long.



A surveyor measures one side of a ranch to be 75 chains long. What is this distance in feet?



7 The owner of a plant nursery wanted to test the effectiveness of a new type of fertilizer. He measured the heights of 5 plants, and then gave each an equal amount of the fertilizer. Two weeks later, he measured the heights of the plants again. The graph shows the heights of the plants before and after the addition of fertilizer.



What was the mean growth of the plants, to the nearest tenth of a centimeter?

8

The table shows the mean number of points scored per game by four professional basketball players in four seasons.

MEAN POINTS SCORED PER GAME

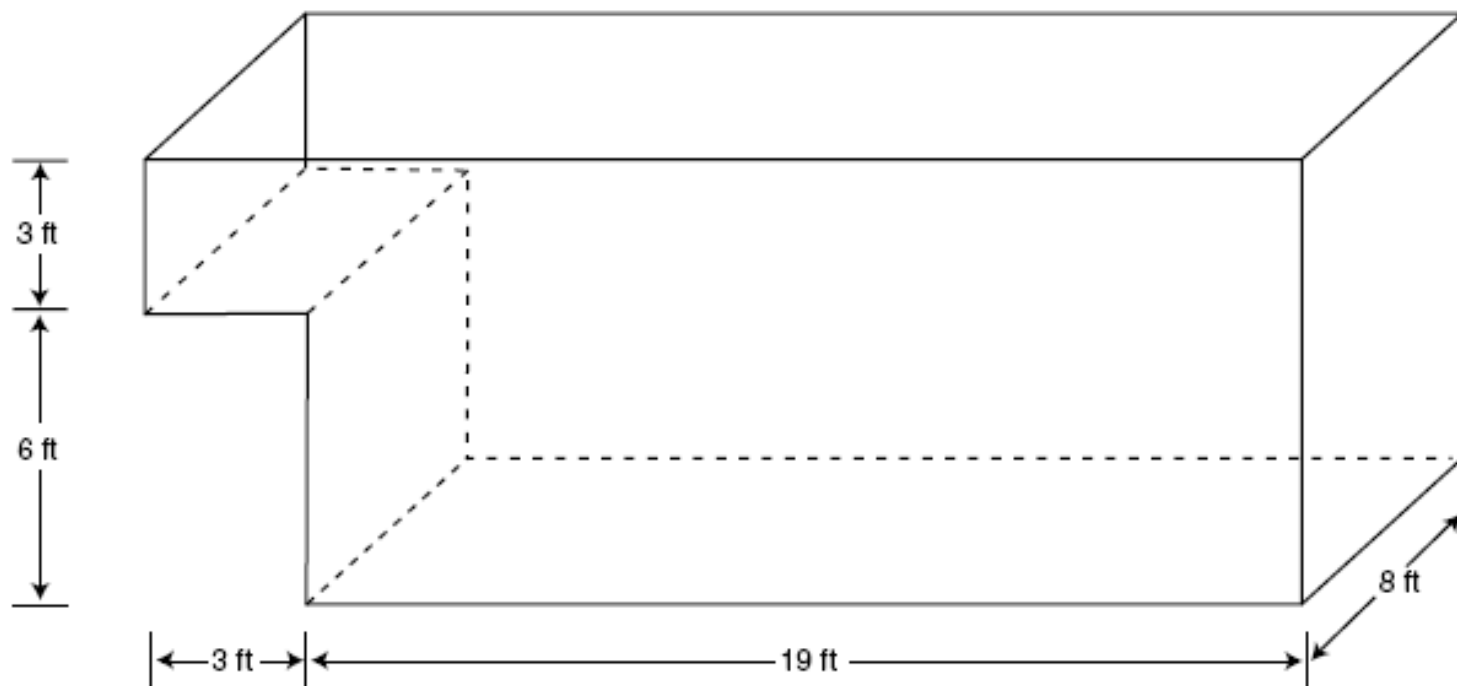
Player	Season			
	1998–1999	1997–1998	1996–1997	1995–1996
Alonzo Mourning	20.1	19.2	19.8	23.2
Tim Hardaway	17.4	18.9	20.3	17.2
Jamal Mashburn	14.8	15.1	13.4	10.6
Terry Mills	9.0	4.2	10.8	9.4

Which player had the greatest **range** of mean points per game for the seasons shown in the table?

- A. Alonzo Mourning
- B. Tim Hardaway
- C. Jamal Mashburn
- D. Terry Mills

9

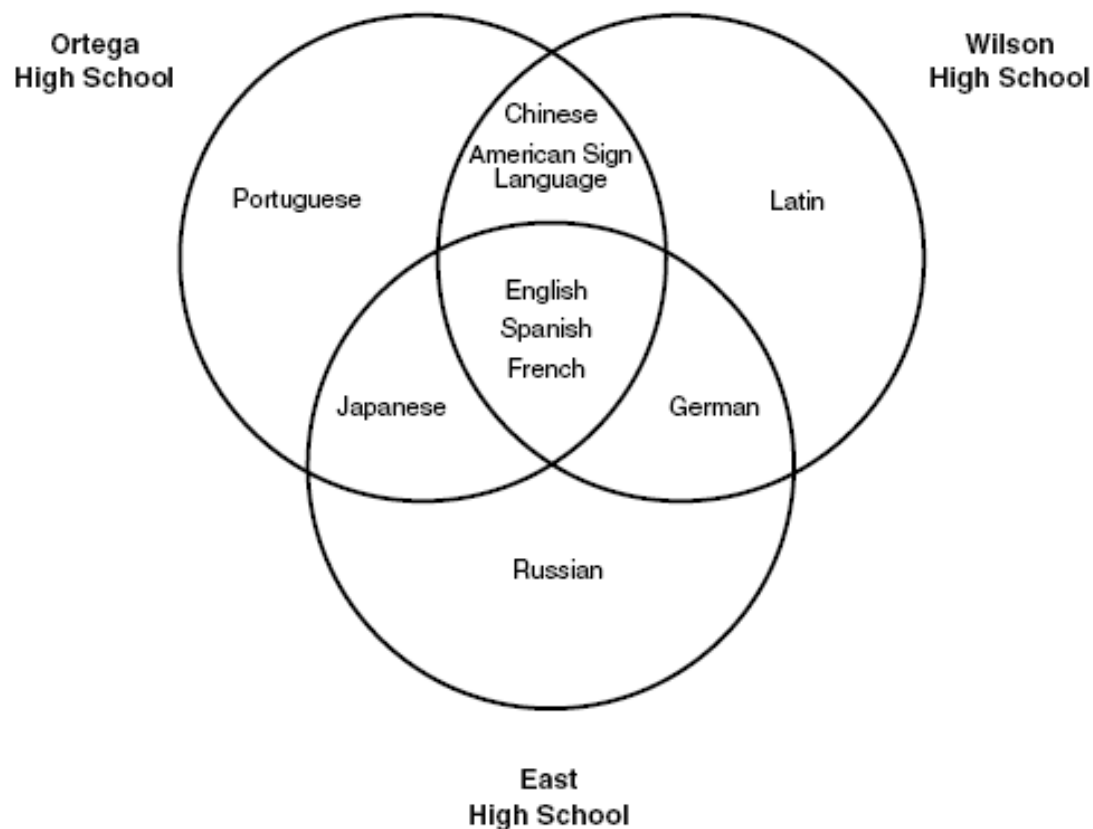
The diagram shows the dimensions of the cargo area of a moving van.



What is the maximum volume of cargo, in cubic feet, that can fit in the van?

- F. 892 cubic feet
- G. 1,368 cubic feet
- H. 1,440 cubic feet
- I. 1,584 cubic feet

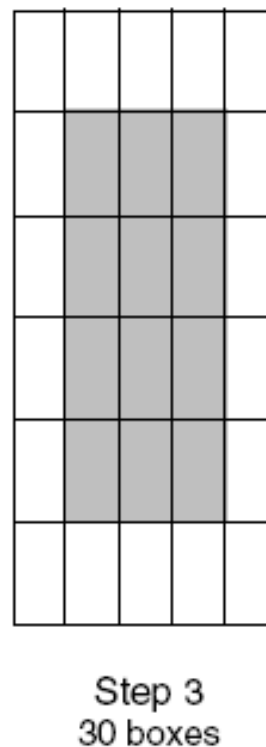
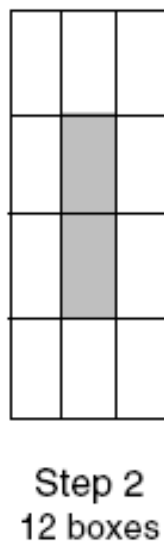
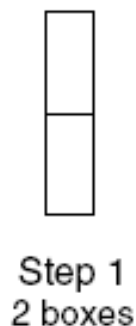
- 10 The Venn diagram shows the languages that are taught at three high schools.



How many languages are taught at both Wilson High School and Ortega High School?

- A. 2
- B. 4
- C. 5
- D. 9

- 11** Will is making a display of oatmeal boxes near the entrance of a grocery store. Each box takes up 15 square inches of floor space. Will begins by placing two boxes on the floor (Step 1). Then he completely surrounds these boxes with more boxes (Step 2). The diagram shows the first 3 steps as seen from above.



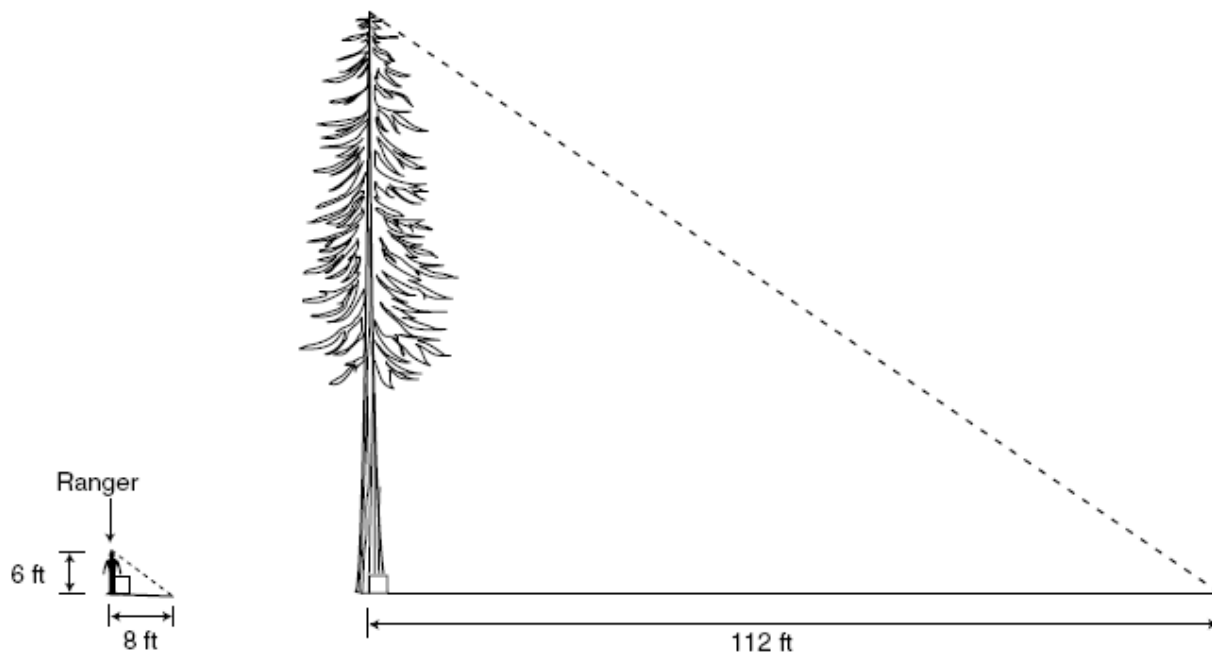
What area of the floor, **in square inches**, will the display occupy in Step 4?

- 12** At a used book store, all books are normally sold at $\frac{1}{2}$ off the cover price. This weekend, however, the store will take an additional 20% off the reduced price. During the weekend sale, John selects a book with a cover price of \$12.



How much will John pay for the book, not including sales tax?

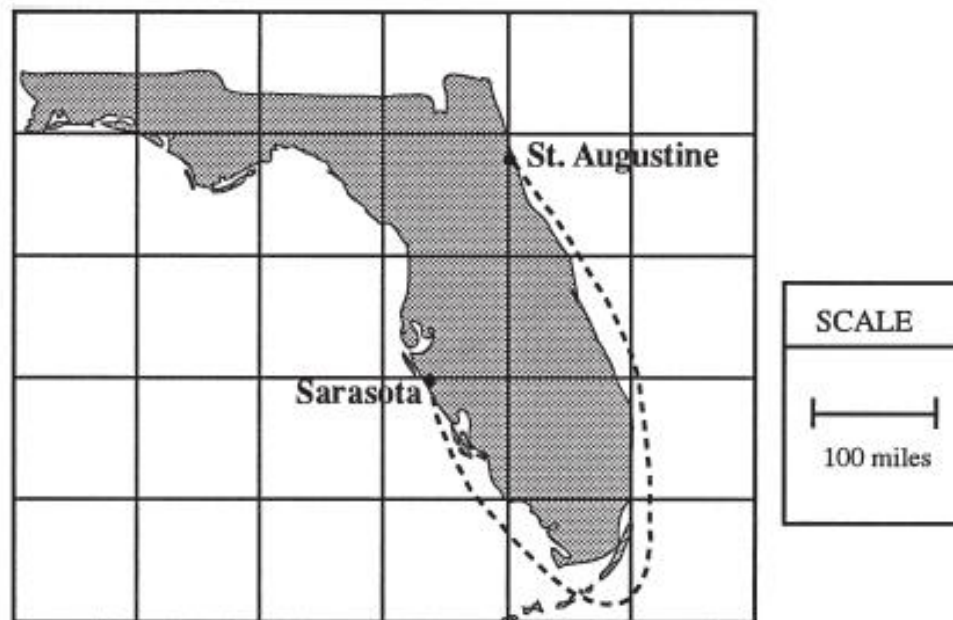
- 13 A 6-foot tall forest ranger used shadows to approximate the height of a large tree. At a time when the shadow of the tree was 112 feet long, the ranger's shadow was 8 feet long.



What is the approximate height of the tree in feet?

- F. 84 feet
- G. 110 feet
- H. 140 feet
- I. 149 feet

- 14 The Ashkar family plans to sail from St. Augustine to Sarasota using the route shown on the map below.



What is the best estimate of the number of miles needed to sail the route shown?

- A. 1,000 miles
- B. 800 miles
- C. 600 miles
- D. 400 miles

- 15** Samantha tosses 2 quarters and 3 pennies. What is the probability that both quarters and at least one of the pennies will land heads up?

F. $\frac{1}{32}$

G. $\frac{3}{32}$

H. $\frac{7}{32}$

I. $\frac{21}{32}$