A tennis ball is **most** like a

- circle.
- cone.
- cylinder.
- sphere.

The shape of the moon is **most** like a

- cone.
- cylinder.
- pyramid.
- sphere.

Ryan's house lies 6 miles due east of Adrian's house. Adrian's house is 8 miles due south of Frank's house.

What is the shortest distance from Frank's house to Ryan's house?

- 8 miles
- 10 miles
- 14 miles
- 24 miles

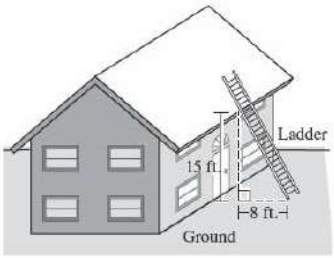
Two cylindrical science beakers are similar. The smaller one has a radius of 2 cm and a height of 4 cm. Its volume is about 50 cubic cm. The larger beaker has a height of about 16 cm. Approximately what is the volume of the larger beaker? ($v = \pi r^2 h$)

- 3,200 cubic cm
- 1,600 cubic cm
- 800 cubic cm
- 200 cubic cm

Roger has a 3-inch-by-5-inch photograph. He is a good painter and wants to make a painting that looks exactly like the photograph but larger. Which one of the following canvases should he buy for this painting?

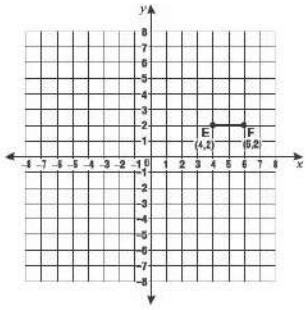
- 15 inches by 45 inches
- 18 inches by 20 inches
- 24 inches by 40 inches
- 30 inches by 75 inches

Using the measures shown in the sketch, what is the length of the section of the ladder from the point where it rests on the ground to the point where it touches the house?



- 4.8 ft.
- 7 ft.
- 17 ft.
- 23 ft.

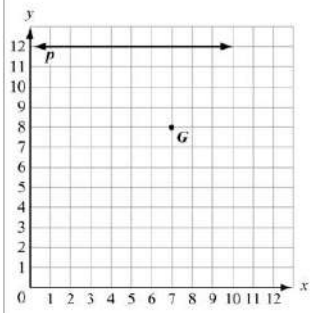
The diagram below shows the location of $\overline{EF}$ on a coordinate plane.



Suppose that $\overline{EF}$ is rotated 180° clockwise about the origin. What are the coordinates of the image of point E?

- (–2, –4)
- (–4, –2)
- (4, –2)
- (–4, 2)

On this coordinate plane, line p represents a bike path.

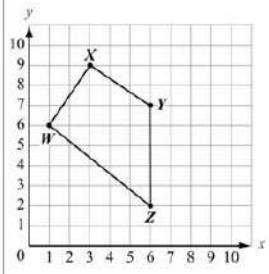


Each unit represents 2 yards.

A deer is grazing at point G. What is the shortest distance between the deer and the bike path?

- 8 yards
- 10 yards
- 12 yards
- 16 yards

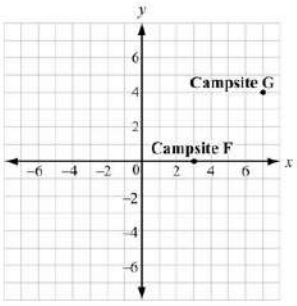
Quadrilateral $WXYZ$ is shown on this coordinate plane.



What is the length, to the nearest unit, of diagonal $\overline{XZ}$?

- 8
- 10
- 12
- 14

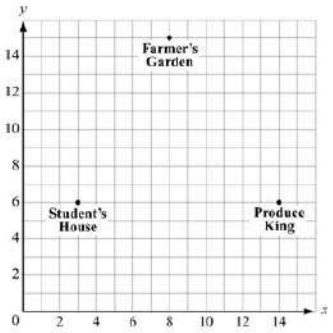
This coordinate plane shows the locations of two campsites.



The campground owner plans to install a water tap at a location that is equidistant from the two campsites. Which set of coordinates could represent the location of the water tap?

- (1, 5)
- (2, 4)
- (6, 0)
- (8, −1)

The locations of a student's house and two markets are shown on this coordinate plane.



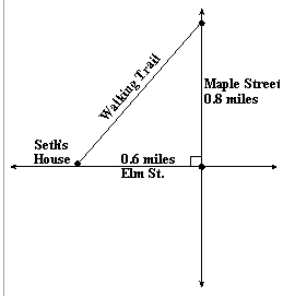
Each unit represents one mile. To the nearest 0.1 mile, how much closer is Farmer's Garden than Produce King to the student's house?

- 0.4 mile
- 0.7 mile
- 1.8 miles
- 2.9 miles

What is the length of a diagonal of a rectangle with length 12 and width 5?

- 7
- 13
- 17
- 60

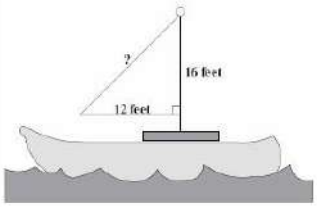
Seth can either ride his bike or walk to school. He can ride at 5 mph for 0.6 miles on Elm Street and then 0.8 miles on Maple Street, or he can walk at 2 mph on the walking trail.



How much longer should it take Seth to walk to school than to ride his bike?

- 0.2 hours
- 0.22 hours
- 0.28 hours
- 0.4 hours

What is the measure of the missing side of the sail?



- 18 feet
- 20 feet
- 22 feet
- 24 feet

Which of the following items is **best** described as a sphere?

- pizza
- soda can
- cereal box
- tennis ball

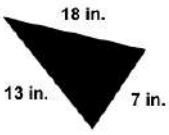
Fill in the blank. All _____ are either similar or congruent to each other.

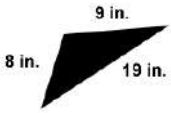
- circles
- triangles
- rectangles
- parallelograms

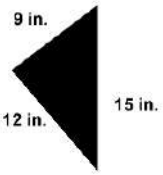
To secure a telephone pole, a steel cable will be attached to a ring on the pole 12 feet above the ground. If the cable is 15 feet long, how far from the base of the pole will the other end of the cable be anchored?

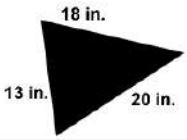
- 3 feet
- 9 feet
- 12 feet
- 15 feet

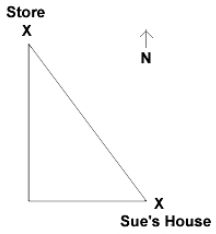
Alyssa is building a birdhouse. She needs a right triangle for the roof. Which triangle should Alyssa use?





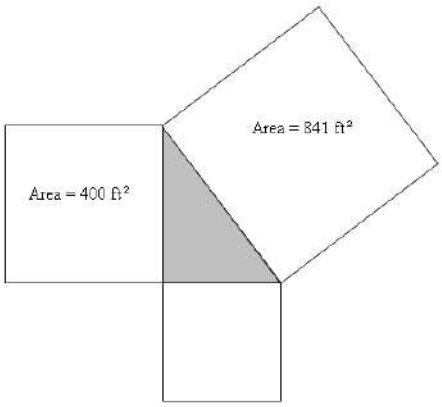






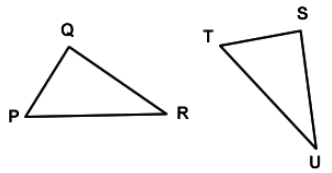
Sue left her house traveling due west towards the store. After 50 yards she traveled due north 120 yards to the store. When she left the store she cut across the field and traveled along a straight path. How much shorter was the path Sue took home then the path she took to the store?

- 40 yards
- 61 yards
- 70 yards
- 109 yards



A right triangle is shaded in the diagram. The area of two squares is shown. What is the area of the third square?

- 21 ft^2
- 35 ft^2
- 441 ft^2
- 1,241 ft^2

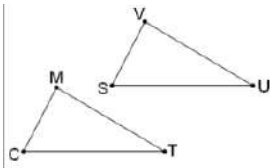


A city park has two congruent flowerbeds. The flowerbeds are shown as triangles PQR and STU. Which angle is congruent to ∠P?

- ∠R
- ∠S
- ∠T
- ∠U

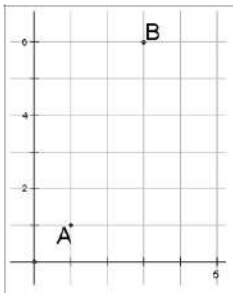
Susan has two boxes. Each box is 12 cm high, 12 cm long, and 12 cm wide. Which statement describes Susan's boxes?

- The boxes are congruent, but not similar.
- The boxes are similar, but not congruent.
- The boxes are similar and congruent.
- The boxes are only similar.



The triangles shown are congruent. Which of the following two sides MUST be proportional?

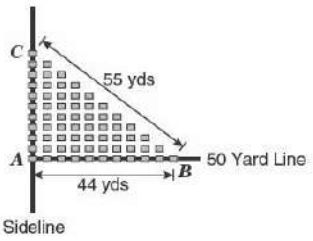
- *CM* and *SV*
- *CM* and *MT*
- *CT* and *VU*
- *CT* and *MT*



Determine the distance between points A and B.

- $\sqrt{7}$
- 4
- 5
- $\sqrt{29}$

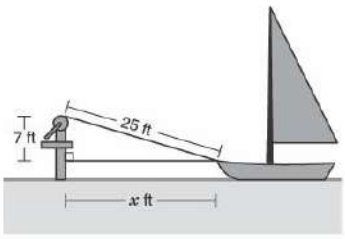
Margo is designing a band formation for a halftime ceremony at a football game. This drawing shows where the band members will stand during the ceremony.



How many yards apart are the band members standing at points *A* and *C*?

- 11
- 33
- 44
- 55

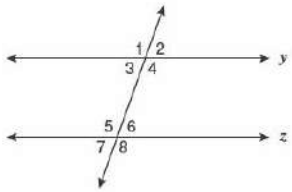
A windlass is used to pull a boat to the dock. The rope is attached to the boat at a point 7 feet below the level of the windlass.



What is the distance from the boat to the dock when the rope is 25 feet?

- 25 ft
- 24 ft
- 18 ft
- 7 ft

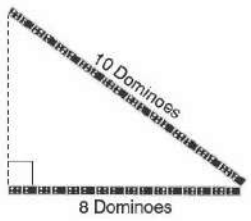
Given: m∠1 = 110°



Which must be true if $y \| z$?

- m∠8 = 100°
- m∠7 = 110°
- m∠6 = 80°
- m∠5 = 110°

Scotty is making a train of dominoes on the floor.



How many dominoes are needed to complete the triangle?

- 6
- 12
- 18
- 36