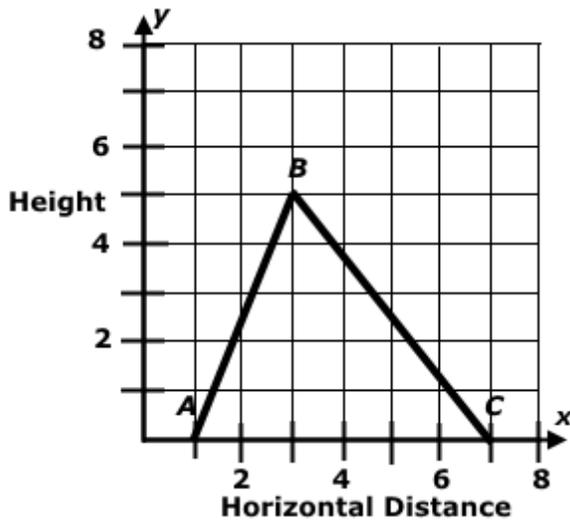Directions: Answer the following question(s).

1 A mountain's approximate shape is modeled on the coordinate plane below, with each unit on the plane representing 1000 feet.

Enter the distance from point *A* at the bottom of the mountain to point *B* at the top of the mountain. Round your answer to the nearest foot.

[   ] feet

2 A store offers free delivery if a customer's house is located within a 30 mile radius of the store. To determine if a customer receives free delivery, the store's employees plot the location of the store and the location of the customer's house on a coordinate plane where each unit on the plane represents one mile. The employees then determine the distance between them.

The store is located at the point (12, –5), and Ingrid's house is located at the point (–14, 3). Enter the distance, in miles, from the store to Ingrid's house. Round your answer to the nearest tenth of a mile.

[   ] miles

3 Julianne began her proof of the Pythagorean Theorem by dividing a right trapezoid into three triangles. If the bases of the right trapezoid measure 6 in. and 8 in., which of these is an area of one of the three triangles? Select *all* that apply.
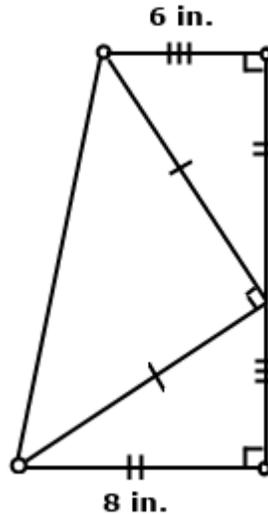
A. 24 in^2

B. 30 in^2

C. 50 in^2

4 What is the distance between points (8, 3) and (3, 1) on the coordinate plane?

A.   3 units

B. $\overline{21}$ units

C. $\overline{29}$ units

D.   7 units

5 Donna wants to draw a right triangle. She wants the hypotenuse to be 1.5 inches long and one of the legs to be 1.2 inches long. Enter the length that she must use for the second leg to form a right triangle.

[   ] inches

Directions: Answer the following question(s).

6 **Which of these rectangles has a diagonal measuring 50 units? Select two that apply.**

A. a rectangle with a width of 10 units and a length of 60 units

B. a rectangle with a width of 14 units and a length of 48 units

C. a rectangle with a width of 18 units and a length of 32 units

D. a rectangle with a width of 30 units and a length of 40 units

7 **Pierre went on a long bike ride. The straight–line distance between his starting point and his ending point was 25 miles. How could he have gotten to his ending point? Select two that apply.**

A. by biking 3 miles east and 22 miles north

B. by biking 7 miles south and 24 miles west

C. by biking 15 miles west and 20 miles north

8 **Kevin began his proof of the Pythagorean theorem by inscribing a square within a square so that the outer square contains both the inner square and four triangles. Suppose the outer square has an area of 196 cm^2, and the inner square has an area of 100 cm^2. If one of the triangles has a side measuring 6 cm, which of these is the length of a side of one of the other three triangles? Select two that apply.**

A. 4 cm

B. 8 cm

C. 10 cm

D. 16 cm
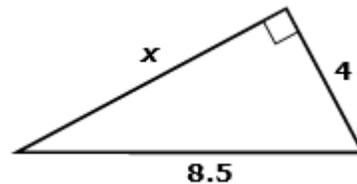
9 **Points _R_ and _S_ are plotted on the coordinate plane below.**
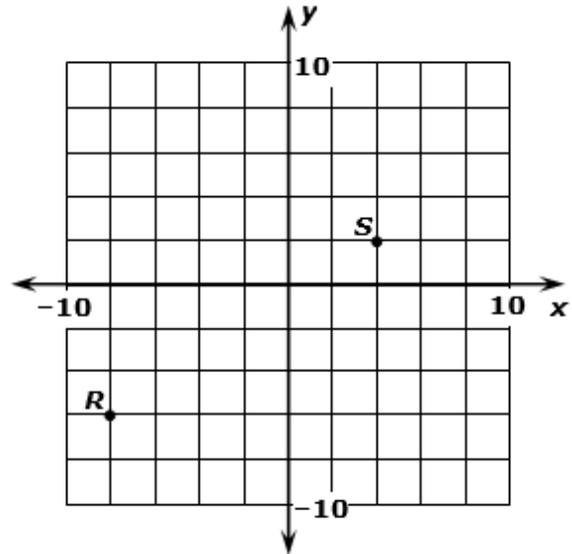
What is the distance between points _R_ and _S_, to the nearest tenth of a unit?

A. 6.3

B. 7.2

C. 14.4

D. 20.0

10 **A right triangle is shown below.**

What is the value of _x_? Enter your value as a decimal rounded to the nearest tenth.

_x_ = ☐