1. Look at the square WXYZ on this coordinate plane.

What is the perimeter of the square WXYZ?
A. 20 units
B. 25.6 units
C. 32 units
D. 40.9 units

2. A house with a rectangular base is built on a plot of land. The southwest corner of the plot is designated with coordinates (0, 0). The corners of the house are located at the points with coordinates (20, 20) (5, 40) (33, 61) and (48, 41) where distances are measured in feet. What is the perimeter of the base of the house?

3. A set of tangrams consists of seven pieces that form a large square, as shown below. The pieces labeled A, B, C, E, and G are isosceles right triangles, D is a square, and F is a parallelogram. The coordinates of the corners of the big square and the coordinates of the point where pieces C, D, and G meet are given. Complete the following table.

4. A rectangular lawn sits behind a large house. Rectangle ABCD, whose coordinates are A(−75,100), B(−100,0), C(100, −50) and D(125,50) models the lawn. Each unit represents 1 foot. Ana is going to overseed the existing lawn. According to the instructions on the lawn seed she is using, she should overseed at a rate of 1.5 pounds per 1,000 square feet. How much seed should Ana use for this lawn to the nearest pound?

5. A salesman traveled from his office to visit customers in four towns. The coordinate grid shows the route he took from his office, at the origin, to visit towns A, B, C, and D. After examining his route, the salesman’s supervisor suggested that he visit the towns in the order BACD instead of ABCD next time. The supervisor claimed that the salesman would travel a shorter distance this way. If each unit on the grid represents 1 mile, which statement best evaluates the supervisor’s suggestion?
A. The supervisor is incorrect. The salesman would actually travel 0.6 miles farther following the route BACD.
B. The supervisor is incorrect. The salesman would travel the same distance following the route BACD.
C. The supervisor is correct. The salesman would travel about 2.1 miles less following the route BACD.
D. The supervisor is correct. The salesman would travel about 2.6 miles less following the route BACD.

Mini Assessment #3

1. Triangle ABC has vertices as shown.

What is the area of the triangle?
A. $\sqrt{72}$ square units
B. 12 square units
C. $\sqrt{288}$ square units
D. 24 square units

2. Samantha invented a new outdoor game. The game requires attaching a rope between the tops of two poles of different heights. Read the instructions Samantha created. Use all the given information to determine the maximum allowable distance between the base of pole A and the base of pole B.

**Game Instructions**
Setup:
- Place pole A perpendicular to the ground so that its height is 3 feet.
- Place pole B perpendicular to the ground so that its height is 7 feet.
- The length of the rope must extend at least 6 inches past the top of each pole for proper assembly.
- Attach the rope to the top of the two poles.

Enter the maximum distance between the base of pole A and the base of pole B to the nearest whole foot.

3. The diagonals of a rectangle $ABCD$ are points $A(-4, 1)$ and $C(6, -4)$. Determine the area of the rectangle $ABCD$. 

What is the area of the rectangle $ABCD$?
A. 24 square units
B. 48 square units
C. 72 square units
D. 144 square units
4. The figure shows rectangle $ABCD$ in the coordinate plane with point $A$ at $(0, 2.76)$, $B$ at $(3.87, 2.76)$, $C$ at $(3.87, 0)$, and $D$ at the origin. Rectangle $ABCD$ can be used to approximate the size of the state of Colorado with the $x$ and $y$ scales representing hundreds of miles.

Based on the information given, how many miles is the perimeter of Colorado?
Enter your answer in the box.

5. A steel pipe in the shape of a right circular cylinder is used for drainage under a road. The length of the pipe is 12 feet, and its diameter is 36 inches. The pipe is open at both ends.
A wire screen in the shape of a square is attached at one end of the pipe to allow water to flow through but to keep animals from getting inside the pipe. The length of the diagonals of the screen are equal to the diameter of the pipe. The figure represents the placement of the screen at the end of the pipe.

What are the perimeter and area of the screen?