Part V:

(Geometry: Areas and Coordinate Plane)

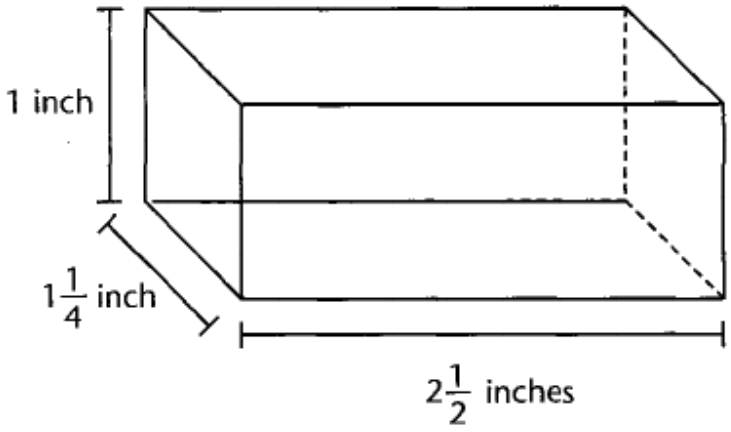
Saturday Tutoring
Mathematics Program

Name:_____

6th Grade

Saturday Tutoring Program 6th Grade Mathematics Practice. Saturday, March 29, 2014.

1. Sally has a box for her ring. The measurements for the box are shown below.

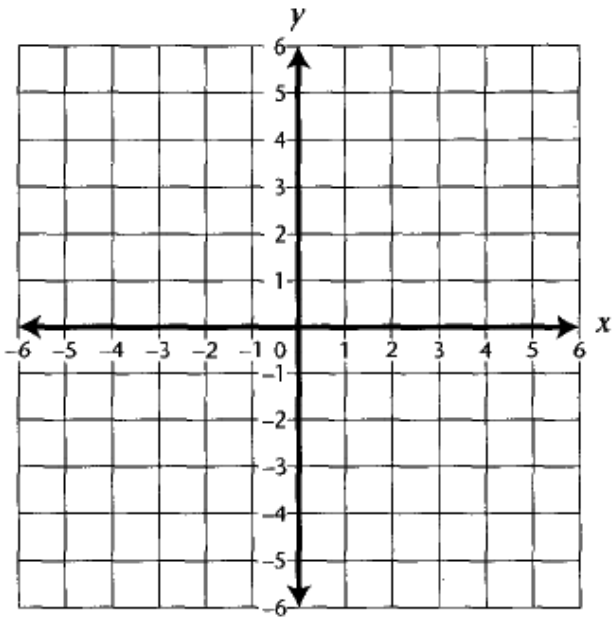


What is the volume of the box?

2. The following points can be used to graph a quadrilateral on a coordinate plane:

K (–5, 2); L (4, 2); M (1, 5); N (–5, 5)

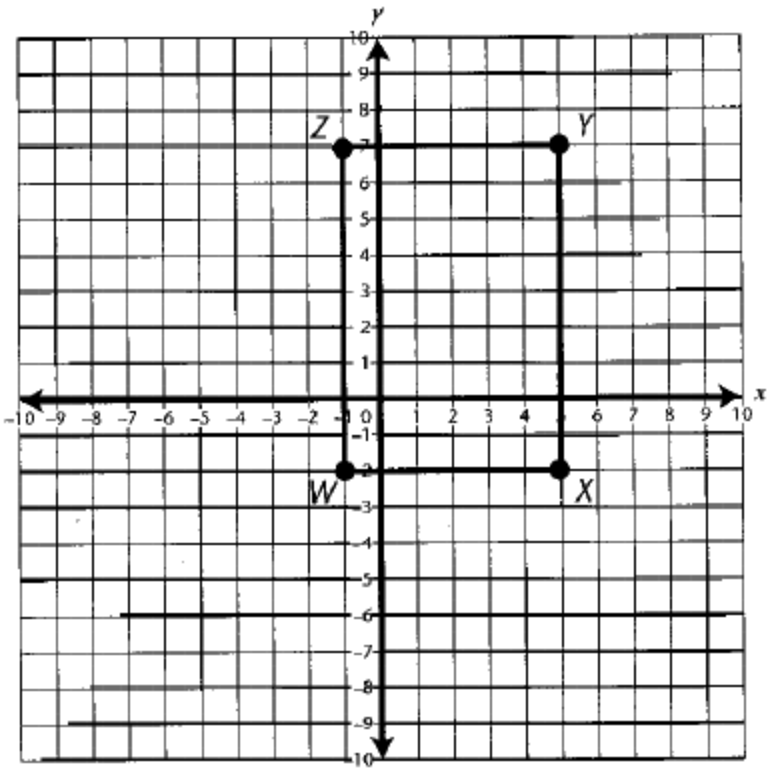
a) Use the points given to graph quadrilateral *KLMN*.



b) What is another name for the type of quadrilateral you have drawn?

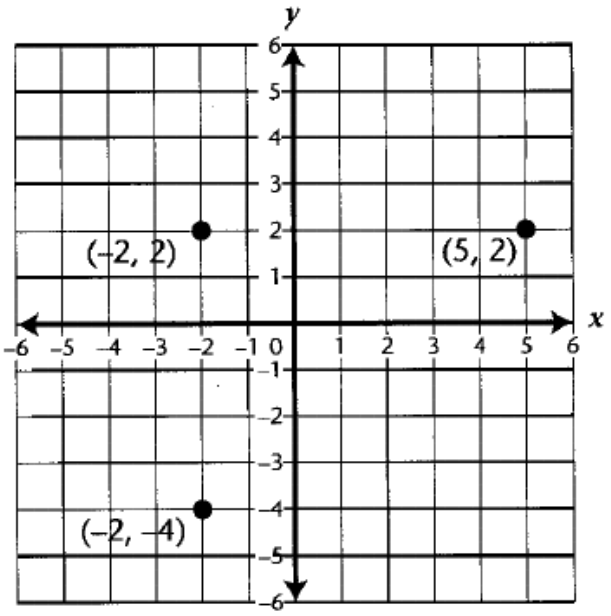
c) What is the length of the longest side?

3. Rectangle *WXYZ* can be used to represent the top of a table.



What is the perimeter of the table?

4 A rectangle can be drawn on a coordinate plane by plotting a point for each corner of the rectangle. Three points that can be used to help construct a rectangle are shown on the grid below.



Which of the following coordinates should be used to plot a point that will help complete the rectangle?

A (5, –2)

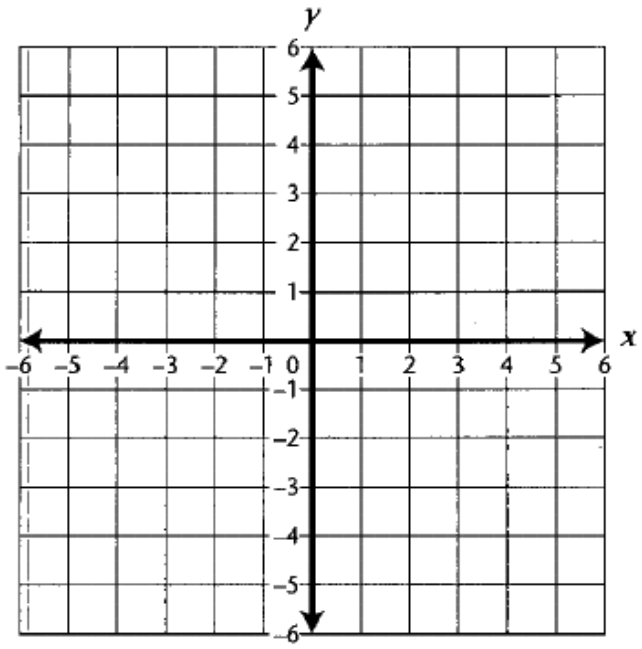
B (–4, –2)

C (–4, 5)

D (5, –4)

5. Plot the following coordinates and connect the points to show triangle *ABC*.

A (5, 1); *B* (–3, 1); *C* (0, 5)



What is the length of line segment *AB*?

6. Examine the coordinates for each of the points listed below.

A (9, 15)
B (8, 9)
C (1, 15)
D (9, 0)

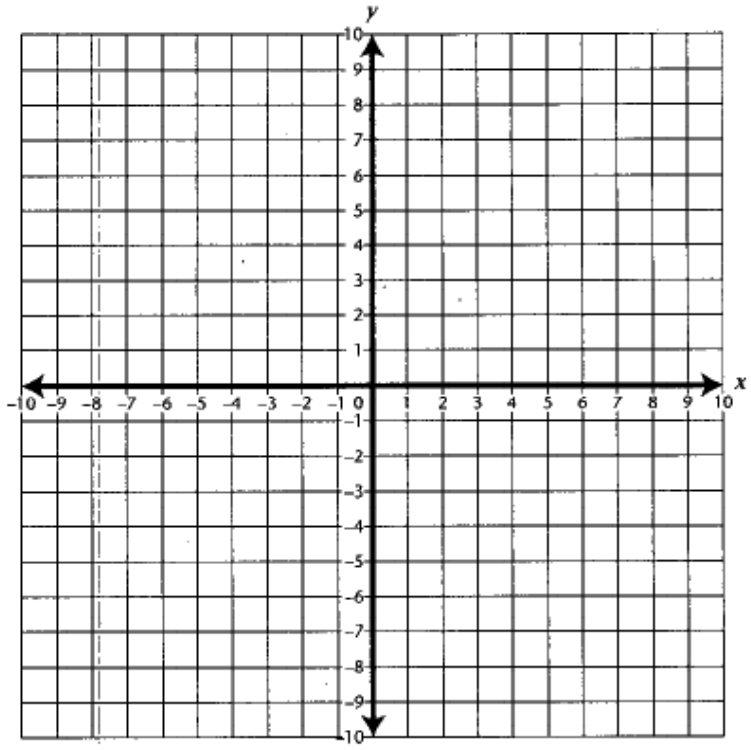
a) Which two points have the same *x*-coordinate?

b) What is the distance between the two points that have the same *x*-coordinate?

7. Claudio wants to use a coordinate plane to draw a picture that represents his apartment. He must first plot the following points at the coordinates given:

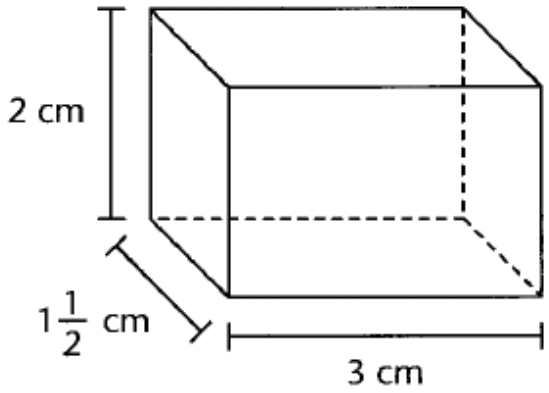
A (–7, 5); B (5, 5); C (5, 10); D (–1, 10); E (–1, 8); F (–7, 8)

a) Show where each point should be plotted. Draw lines to connect the points in alphabetical order (A, B, C, D, E, F).



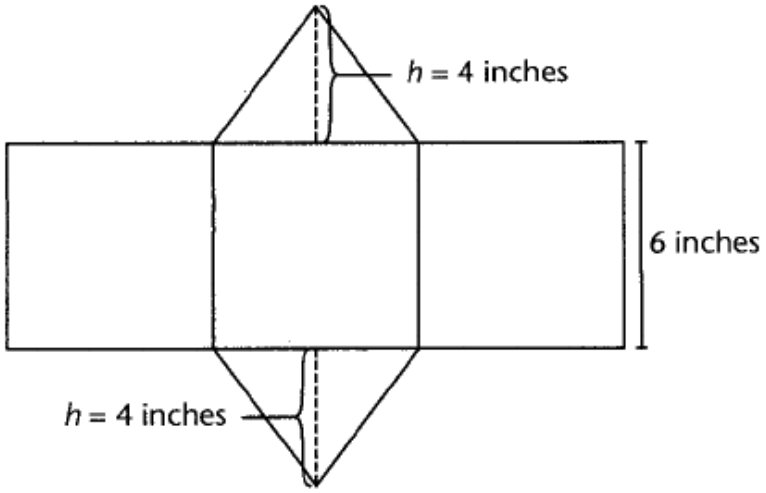
b) What is the perimeter of Claudio's room?

8. Find the volume of the rectangular prism shown below.



Show your work.

9. A shape net for a triangular prism is shown below. Two of the sides are shaped like triangles, and 3 sides are shaped like squares.

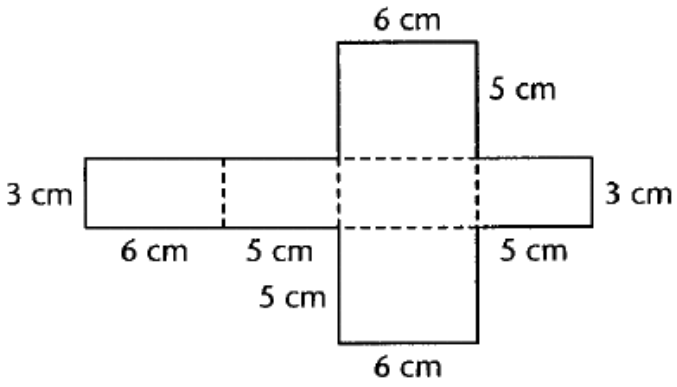


The height of both triangles is 4 inches, and the length of the sides for each square is 6 inches.

a) What is the area of each side of the triangular prism?

b) What is the total surface area of the triangular prism?

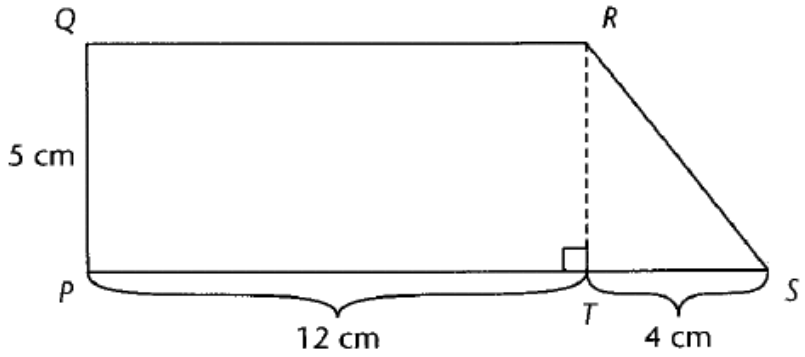
10. The shape net below can be folded along the dotted lines to form a solid figure with 6 rectangular sides.



What would be the total surface area of the resulting solid figure? Show the steps you must take to get your answer.

Show your work.

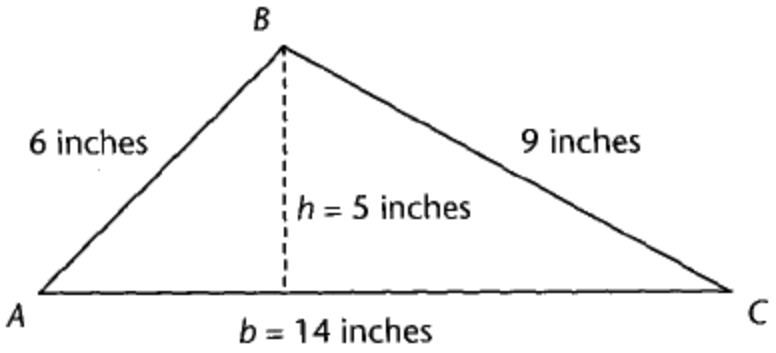
11. zoid *PQRS* can be divided into rectangle *PQRT* and triangle *RST*.



What is the area of trapezoid *PQRS*? Explain the steps you took to get your answer.

Show your work.

12. What is the area of triangle *ABC*?



Show your work.