Lesson 1
E learn

MATH
IS
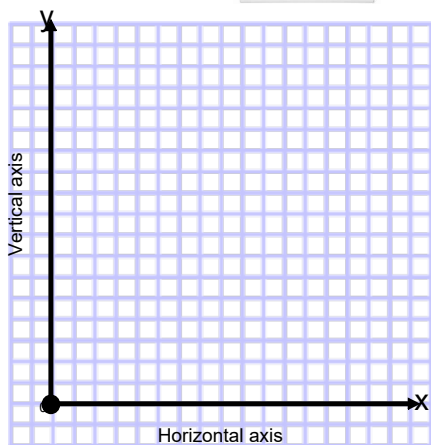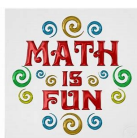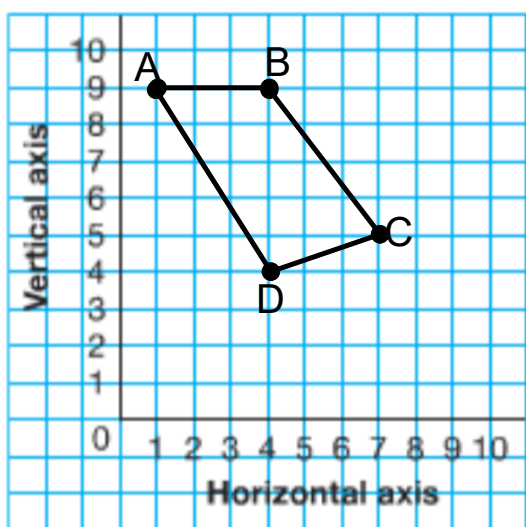FUN

Warm Up Grade 6
Ch. 8 Transformations

Date:_____

plot in order and connect as you go

(5, 8), (2,8) , (2, 10), (13, 10), (13, 8),

(7, 8), (7, 1), (5, 1)

back to (5, 8)

What shape did this make?

TRANS
FORMERS

Vertical axis

Horizontal axis

We can use the ordered pairs to describe this shape on the Cartesian plane.

To describe the shape, we label its vertices with letters. The letters are written in order as you move around the perimeter of the shape

Follow alphabetical order
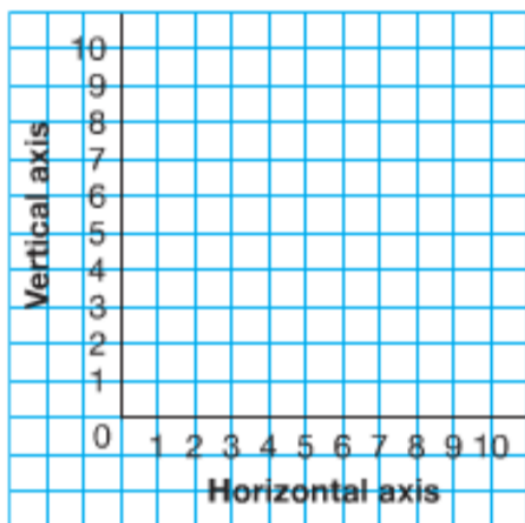
Point A has coordinates _____

Point B has coordinates _____

Point C has coordinates _____
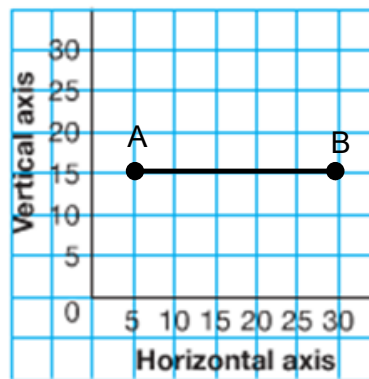
Point D has coordinates _____

You try

Given the coordinates G(5,3) , H(8, 7) and I(2,9), what shape did you make? (Make sure to label the points)

Finding length of a vertical or horizontal line

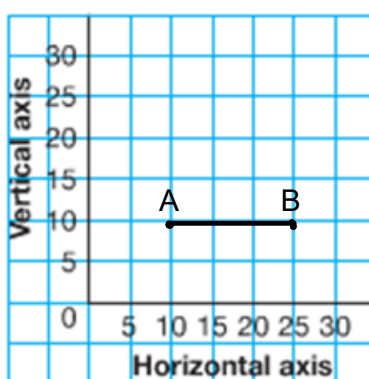**Strategy #1**

Counting Squares

First: find out how many squares are between the line segment AB

Second: Look at your scale. This will tell you the side length of each square.
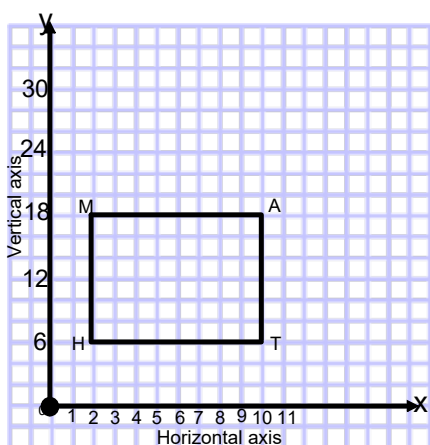
Third: Multiple the number or squares by your side length

Strategy #2

Using the Coordinates

of the points

Vertical axis

30
25
20
15 A   B
10
5

0   5 10 15 20 25 30

Horizontal axis

First: The first coordinate of an ordered pair tells how far you move right (10, 10) and (25, 10)

Second: The horizontal distance between AB is: 25 – 10 = 15 (So the line is 15 m long)

Give coordinates of vertices

M

A

T

H

What is the height of the rectangle? Which strategy did you use?

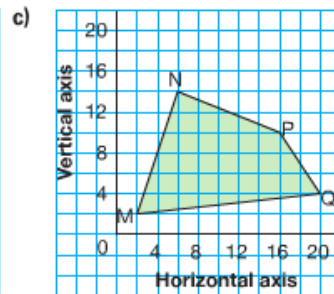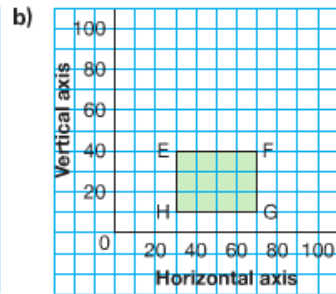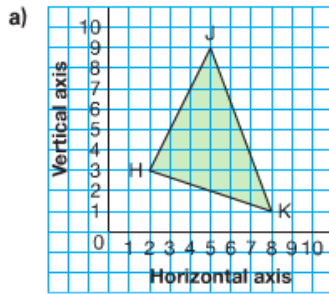What is the width of the rectangle? Which strategy did you use?

Class/Homework

page 293-294 #1, #2

Can't do the #3 on since you have no graph paer
at home but if you do you can try those as well

Practice ●

1. Write the coordinates of the vertices of each shape.

a)

b)

c)

2. Find the length of each line segment on this coordinate grid.
   Describe the strategy you used.
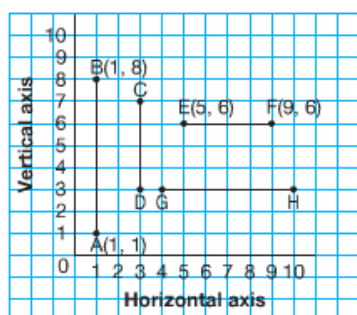
3. Copy this grid.
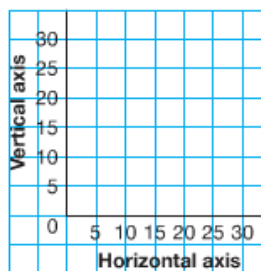   a) Plot each point on the grid.

      A(10, 5)   B(5, 15)   C(10, 25)
      D(20, 25)   E(25, 15)   F(20, 5)

   b) Join the points in order. Then join F to A.
   c) Describe the shape you have drawn.

4. Draw and label a coordinate grid.
   a) Plot each point on the grid.
      What scale will you use? Explain your choice.

   J(4, 2)   K(4, 10)   L(10, 12)   M(10, 4)
   b) Join the points in order. Then join M to J.
   Describe the shape you have drawn.

5. Draw a shape on a coordinate grid.
   Each vertex should be at a point where grid lines meet.
   List the vertices of the shape, in order.
   Trade lists with a classmate. Use the list to draw your classmate's shape.

6. Draw and label a coordinate grid.
   a) Plot each point on the grid.
      What scale will you use?
      Explain your choice.
      A(10, 30)   B(35, 30)   C(35, 15)   D(10, 15)
   b) Join the points in order. Then join D to A.
      Describe the shape you have drawn.
   c) Find the length of each side of the shape.
      Show your work.

7. Draw and label a coordinate grid.
   a) Plot the points A(5, 1) and B(5, 5).
      Join the points.
   b) Find point C so that △ABC is isosceles.
      How many different ways can you do this?
      Draw each way you find.
      Write the coordinates of C.
      How do you know each triangle is isosceles?
   c) Find point D so that △ABD is scalene.
      Show 3 different scalene triangles.
      Write the coordinates of D.
      How do you know each triangle is scalene?
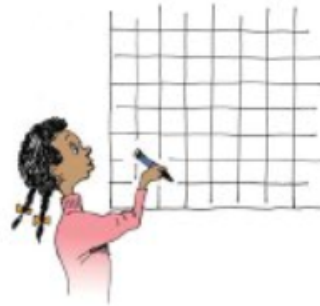
8. Draw and label a coordinate grid.
   a) Plot these points: E(5, 1), F(3, 3), G(5, 6)
   b) Find the coordinates of Point H that forms Kite EFGH.
      Explain the strategy you used.

9. The points A(10, 8) and B(16, 8) are two vertices of a square.
   Plot these points on a coordinate grid.
   a) What are the coordinates of the other two vertices?
      Find as many different answers as you can.
   b) What is the side length of each square you drew?