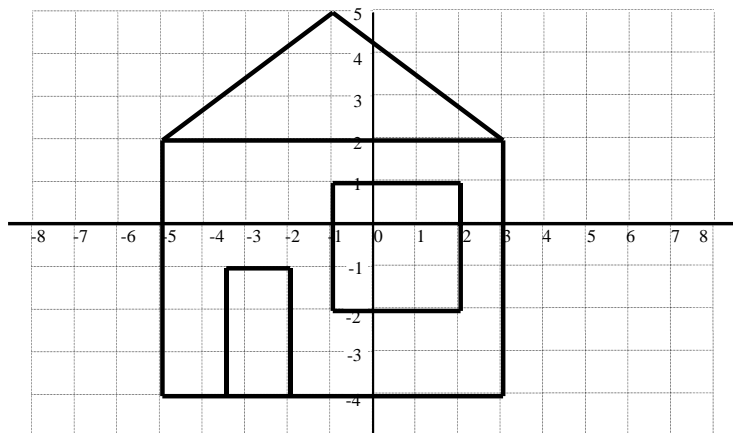


Coordinate Art (Non-calculator version)

Consider this Work of Art.



- On grid paper, re-create this Work of Art by neatly joining, in order, the points whose coordinates are given below. The instruction "lift pencil" means **don't** join the previous point to the next point. USE A PENCIL, SO YOU CAN CORRECT MISTAKES!

(-2, -4)	(-2, -1)	(2,1)
(-5, -4)	(-3.5, -1)	(2, -2)
(-5, 2)	(-3.5, -4)	(-1, -2)
(-1, 5)	lift pencil	(-1, 1)
(3,2)	(-5, 2)	(2, 1)
(3, -4)	(3,2)	
(-2, -4)	lift pencil	

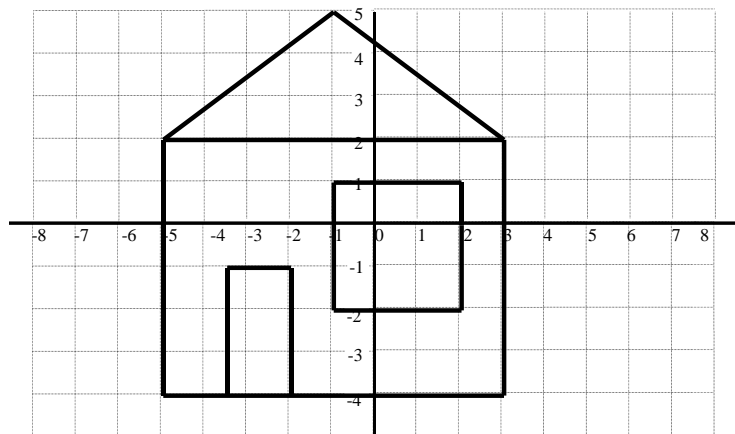
- Now create your own Beautiful Work of Art (BWOA) as follows:
 - Draw your own BWOA on grid paper. Hint: If you can't draw very well, cut out a picture from a newspaper or magazine and trace around that, or paste a graphic from the web over a grid drawn in Word, or use a cookie cutter with a neat shape and trace around it.
 - Change the curves in your BWOA into line segments.
 - List the instructions (see Question 1 as an example) needed for a fellow student to draw your BWOA on grid paper.

Marking Rubric

4 The drawing has an appropriate level of complexity and visual appeal. There is at most one error in the instructions. The presentation is of a high standard.	3 The drawing has a satisfactory level of complexity and visual appeal. There are at most three errors in the instructions. The presentation is of a good standard.
2 The drawing has been done. There are more than three errors in the instructions. The presentation is of a satisfactory standard.	1 The drawing has been attempted. There are more than three errors in the instructions. The presentation is of a poor standard.

Coordinate Art (Graphics calculator version)

Consider the Work of Art below.



- On grid paper, re-create this Work of Art by neatly joining, in order, the points whose coordinates are given below. The instruction "lift pencil" means to **not** join the next point to the previous point.

(-2, -4)	(-2, -1)	(2,1)
(-5, -4)	(-3.5, -1)	(2, -2)
(-5, 2)	(-3.5, -4)	(-1, -2)
(-1, 5)	lift pencil	(-1, 1)
(3,2)	(-5, 2)	(2, 1)
(3, -4)	(3,2)	
(-2, -4)	lift pencil	

- Re-create this Work of Art on your graphics calculator as follows.
 - Reset your calculator as follows: Press [2nd] [Mem] [Reset] [Defaults] [Reset] [Clear].
 - Clear all lists: [2nd] [Mem] [ClrAllLists] [Enter].
 - Enter the coordinates of the first point by pressing [Stat] [Edit] and then entering the x-coordinate (-2) into list L1 and the y-coordinate (-4) into list L2.
 - Enter the coordinates of the second point by pressing [Stat] [Edit] and then entering the x-coordinate (-5) into list L1 and the y-coordinate (-4) into list L2.
 - Continue to enter coordinates until you reach the "lift pencil" instruction.
 - Enter the coordinates of the second set of points (between the first "lift pencil" instruction and the second "lift pencil" instruction) into lists L3 and L4.
 - Enter the coordinates of the third set of points (after the second "lift pencil" instruction) into lists L5 and L6.

g. Press [**Window**] and make these changes:

Xmin = -6

Xmax = 4

Xscl = 0

Ymin = -5

Ymax = 6

Yscl = 0

h. Press [**2nd**] [**StatPlot**]. Turn on Plot 1. Select (connected scatterplot, L1, L2). Choose the small dot for Type.

i. Press [**2nd**] [**StatPlot**]. Turn on Plot 2. Select (connected scatterplot, L3, L4). Choose the small dot for Type.

j. Press [**2nd**] [**StatPlot**]. Turn on Plot 3. Select (connected scatterplot, L5, L6). Choose the small dot for Type.

k. Press [**Graph**].

l. Save the graph as PICO as follows: Press [**2nd**] [**Draw**] [**Sto**] [**StorePic**] [**0**] [**Enter**].

3. Now create your own Beautiful Work of Art (BWOA).

a. Draw your own BWOA on grid paper. (Hint: If you can't draw, cut out a shape from a newspaper or magazine, or paste a graphic from the web over a grid drawn in Word.)

- If you have curves in your BWOA, change them into line segments.
- Your BWOA must use no more than two "lift pencil" instructions. Sometimes a clever choice of the starting point can reduce the number of "lift pencil" instructions.
- Be creative! Your BWOA should be appealing to the viewer.

b. Give the set of instructions (see Question 1) to re-create your BWOA on grid paper.

c. Re-create your Beautiful Work of Art on your graphics calculator. Save your result as PIC1.

Coordinate Art - Marking Scheme

Name:

Criteria	Mark	Possible
Presentation		2
Instructions		2
Graph on paper		2
Graph on calculator		2
Complexity		2
Total (out of 10)		10
Scaled (out of 5)		5