



**Description**

- Review of plotting points by hand on the  $xy$ -plane
- Play a game to reinforce the skill of plotting points on the  $xy$ -plane

**Materials**

- Presentation software file: Points and their Coordinates (p. 14)
- data projector
- BLM 1.1, 1.2

**Assessment Opportunities**

**Minds On ...**

**Whole Class → Orientation**

Discuss classroom expectations.  
Show the electronic presentation: Points and their Co-ordinates to review plotting points in the  $xy$ -plane.

**Action!**

**Pairs → Activate Prior Learning**

Students complete first three questions of BLM 1.1 to review plotting points in the  $xy$ -plane. Circulate and provide help as needed.

**Curriculum Expectations/Observation/Anecdotal:** Assess student understanding of plotting points and movement along the  $xy$ -plane using Up/Down; Right/Left to indicate the direction.

**Pairs → Game**

Students play the game Grid Walking based on the co-ordinate axes. (BLM 1.2.)

**Curriculum Expectations/Observation/Mental Note:** Observe students' strategies and facility with plotting points and with moving across the co-ordinate axes to determine how often to repeat the process in order to ensure that students are proficient with these skills.

Encourage students to consult with their partner to solve problems before they ask for assistance.

The game "Grid Walking" provides an opportunity to become proficient with an essential skill for the investigation on Day 2 in Unit 1.

**Consolidate Debrief**

**Whole Class → Discussion**

Discuss strategies that students developed during the game Grid Walking:

- Which of the points were better starting position choices? Why?
- Once you had chosen a point, what was your criterion for choosing the Grid Walk directions?

*Application Skill Drill*

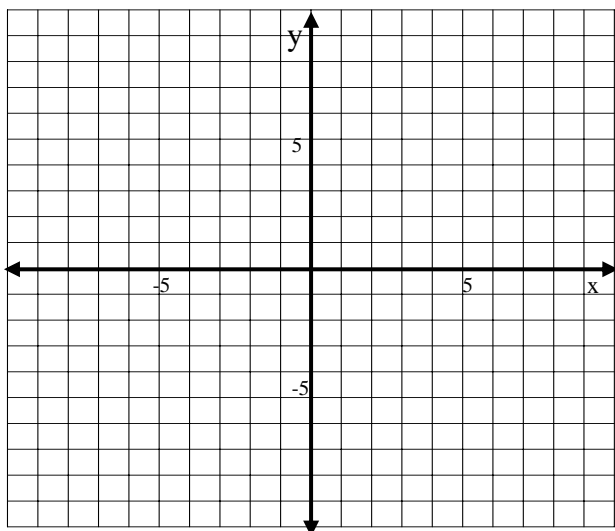
**Home Activity or Further Classroom Consolidation**

Use the co-ordinates for the picture designed by your partner in question 4 of worksheet 1.1 to plot points and complete the picture.

## 1.1: Plotting Points

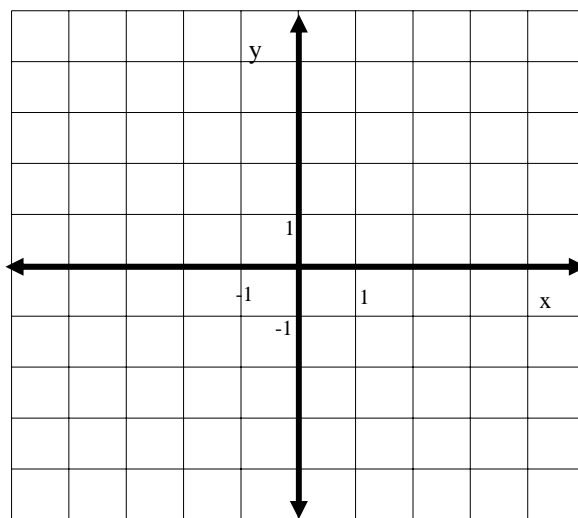
1. Plot each set of points on the grid below.  
Join the points to form a quadrilateral.  
Identify the quadrilateral

Set 1: A(1, 1), B(1, 5), C(-3, 5), D(-3, 1)  
Set 2: J(1, -3), K(5, 1), L(8, 1), M(4, -3)  
Set 3: P(-3, 0), Q(-6, -2), R(4, -4), S(10, 0)



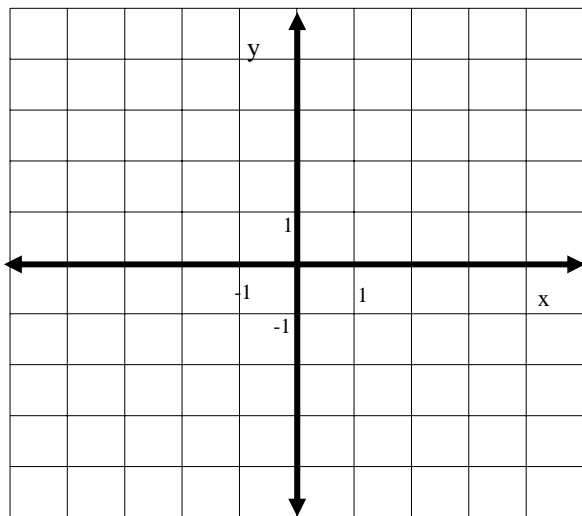
2. Plot these points.  
Connect the points in order.  
Name the polygon.

(1, -1), (2, 1), (1, 3), (-1, 4), (-3, 3),  
(-4, 1), (-3, -1), (-1, -2), (1, -1)

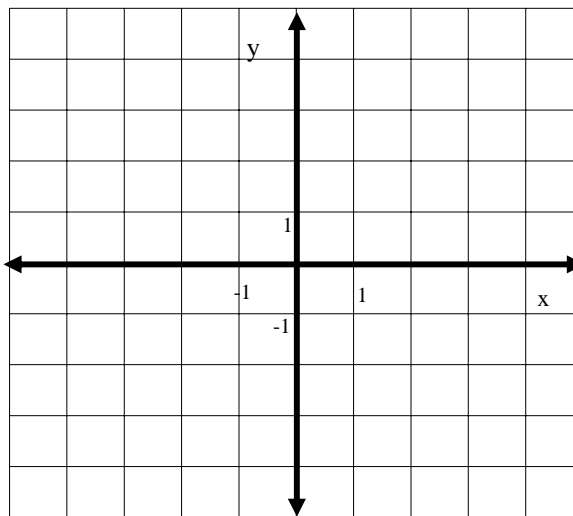


3. Plot these points.  
Connect the points in order.  
What picture do you see?

(2, 1), (5, 5), (1, 2), (0, 5), (-1, 2), (-5, 5),  
(-2, 1), (-5, 0), (-2, -1), (-5, -5),  
(-1, -2), (0, -5), (1, -2), (5, -5),  
(2, -1), (5, 0), (2, 1)



4. Make your own picture. Record the points in order. Exchange your picture code with a classmate and construct each other's picture.



## 1.2: Grid Walking

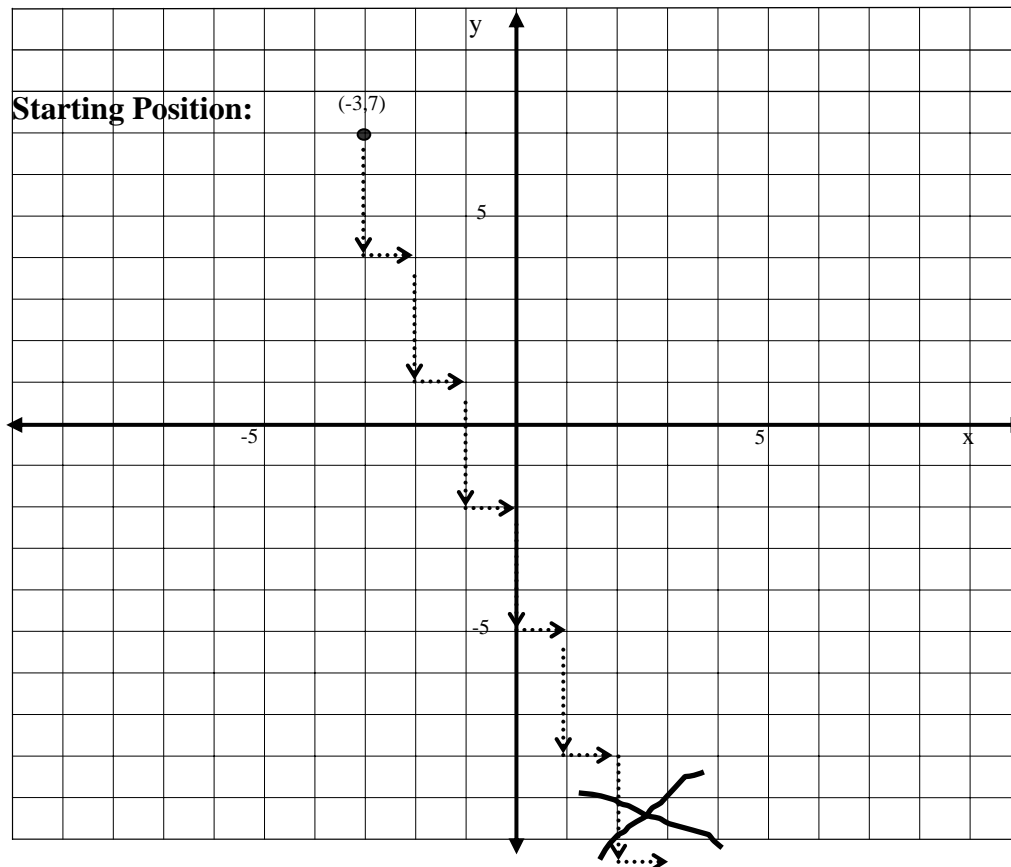
1. You and your partner need a Grid Walking game board and a score sheet.
2. Each of you chooses one 'Starting Position' and one pair of Grid Walk directions. Record these on the score sheet.
3. On the grid, mark your starting position and move across the grid following the Grid Walk directions.
4. Keep moving following the Grid Walk directions until you get to an edge or a corner of the grid.
5. Collect 1 point for each complete "step." No points are given for partial steps!
6. The next player chooses a new starting position and new Grid Walk directions.
7. Use a different colour to mark each turn on the grid.

### Example:

The starting position is  $(-3, 7)$ .

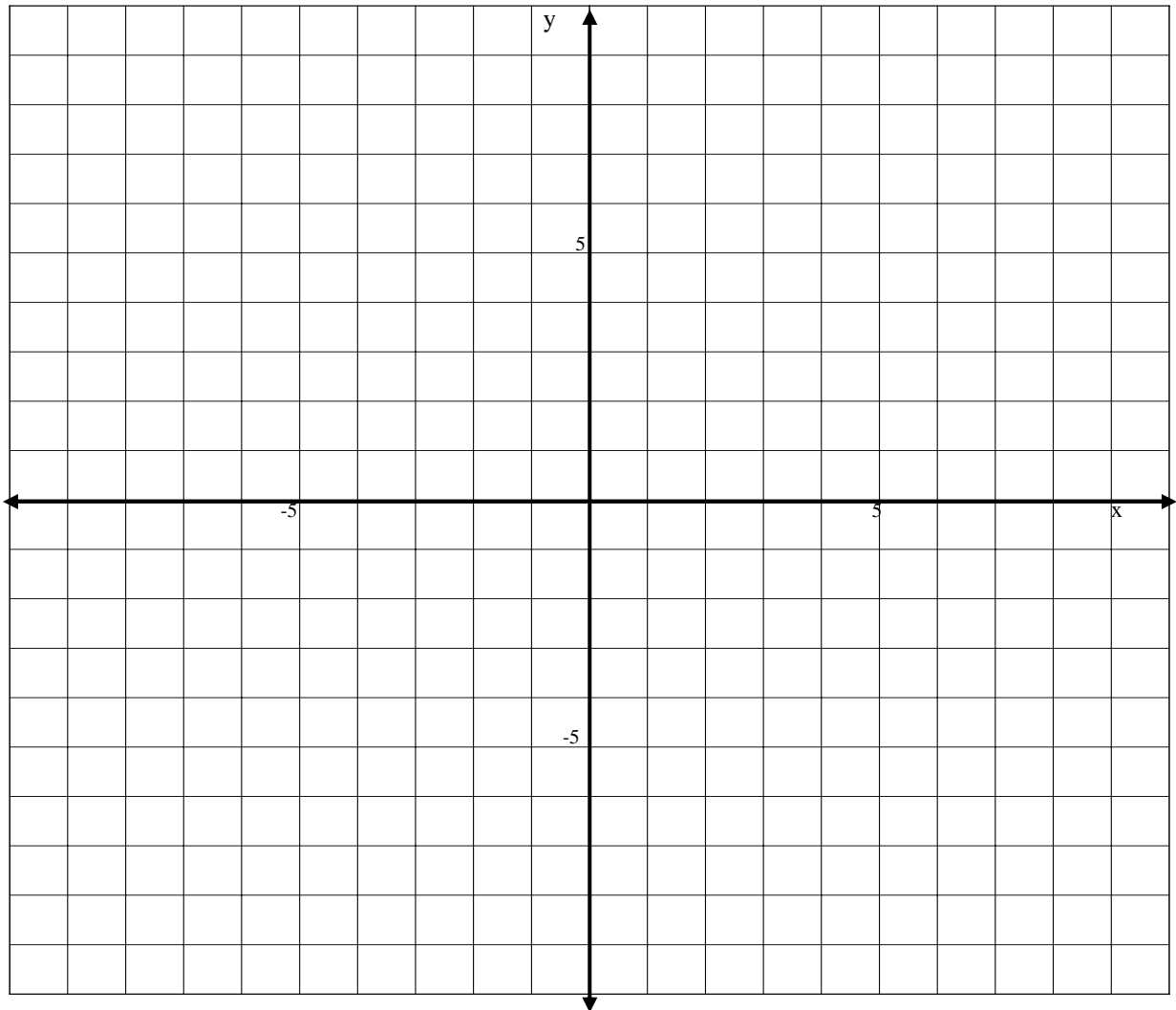
The Grid Walk directions are: Down 3, Right 1.

This play has 5 complete "steps" and earns 5 points.



## 1.2: Grid Walking Game Board (continued)

Starting Position Choices		Grid Walk Choices			
(2, -4)	(-4, -1)	Up 0	Down 0	Right 0	Left 0
(-2, 0)	(1, 1)	Up 1	Down 1	Right 1	Left 1
(-3, 7)	(0, 0)	Up 2	Down 2	Right 2	Left 2
(5, -4)	(-6, 1)	Up 3	Down 3	Right 3	Left 3
(0, 2)	(4, -3)	Up 4	Down 4	Right 4	Left 4
(4, 2)	(-2, -3)	Up 5	Down 5	Right 5	Left 5





# Points and their Coordinates (Presentation software file)

Download this file at [www.curriculum.org/occ/tips/downloads.shtml](http://www.curriculum.org/occ/tips/downloads.shtml)

