Using Coordinates to Solve Problems

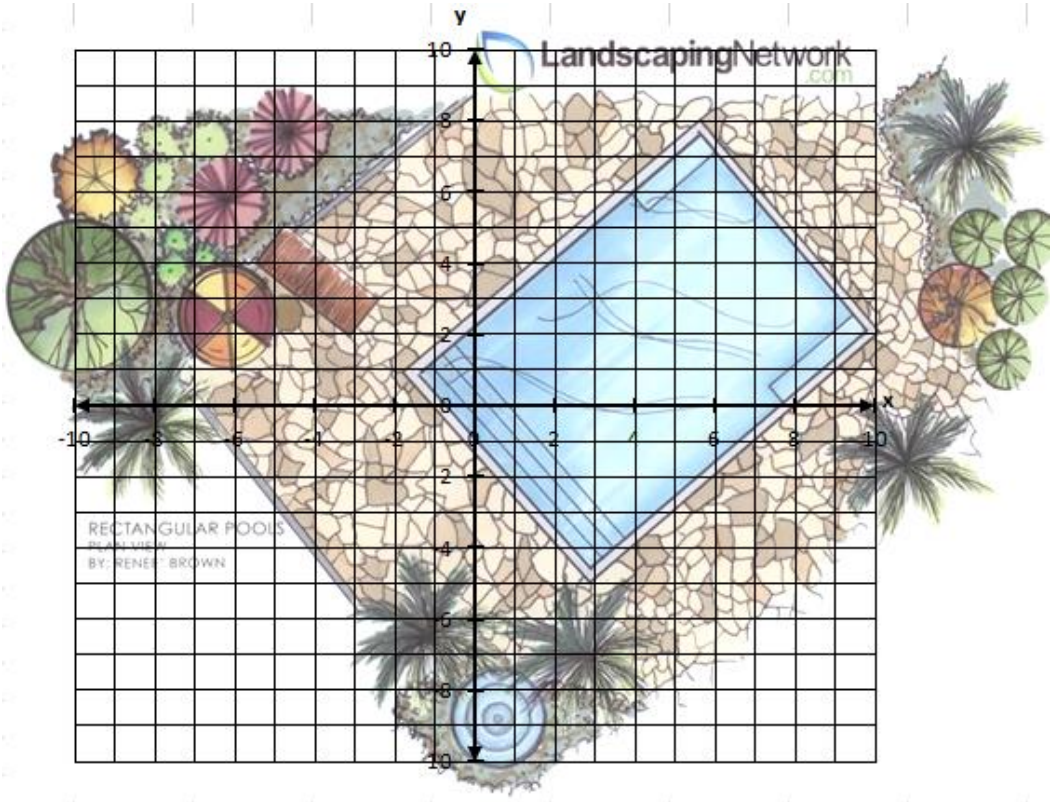
Learning Goal

- Use properties of lines and line segments to solve problems.

Minds on . . .

Think, pair, share!

SWIMMING POOLS Antonio is designing a swimming pool on a coordinate grid. Is it a rectangle? Explain.



What should I do?

G	R
A	S
P	

- Read the problem carefully.
- Highlight important information.
- Draw a picture.
- Determine what you need to find.
- Make a plan.
- Execute your plan, keeping it organized.
- State your solution.
- Check that your answer is reasonable.

Example #1

- On the design plan for a garden, a straight path runs from (–25, 20) to (40, 36). A lamp is going to be placed halfway along the path. Determine the coordinates for the lamp.

Example #2

- A hockey arena is going to be built to serve two rural towns. On a plan of the area, the towns are located at (1, 7) and (8, 5). If the arena needs to be the same distance from both towns, determine an equation to describe the possible locations for the arena.

Example #3

- A new lookout tower is going to be built so that it is the same distance from three ranger stations. If the stations are at *A* (–90, 28), *B* (0, –35) and *C* (125, 20) on a grid, determine the coordinates of the point where the new tower should be built.

Example #4

- A power line is going to be laid from A (–22, 15) to B (7, 33) to C (10, 18) to D (–1, 4). If the units are metres, what length will the power line be?

Consolidation

- What are the tools in your mathematical tool belt?

Reinforcement

- Pages 120 – 121
  - #8, 9, 12, 14, 16, & 17