Unit 7, Lesson 3

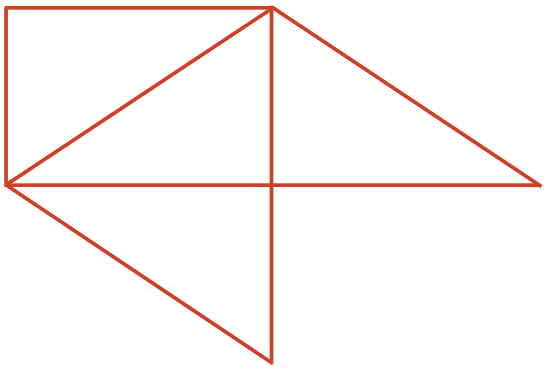
Two or More Lines

Let's look at lines that cross and lines that don't.

Warm-up

How Many Do You See: A Curious Figure

How many line segments do you see? How do you see them?

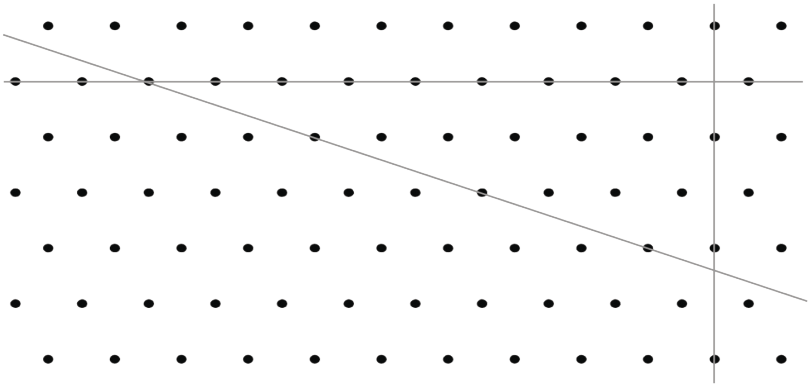


Activity 1

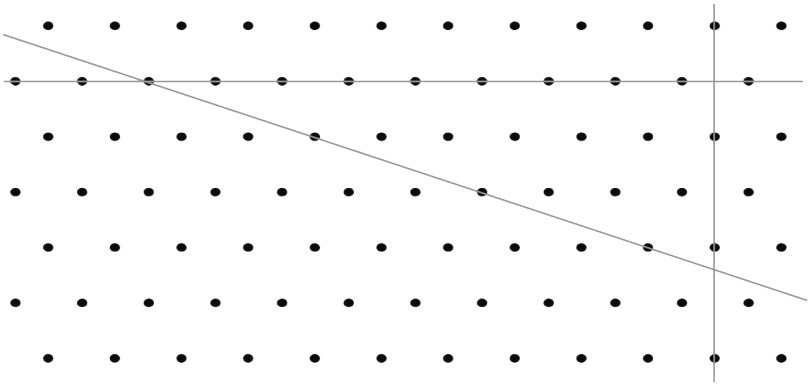
Four Lines

1. Three lines on a field of dots **intersect** (cross) to form a triangle. Can you draw a fourth line so that the four lines form a quadrilateral?

   Use the drawing to explain or show your reasoning.



2. Here is a copy of the same drawing. Can you draw a fourth line to form a rectangle?



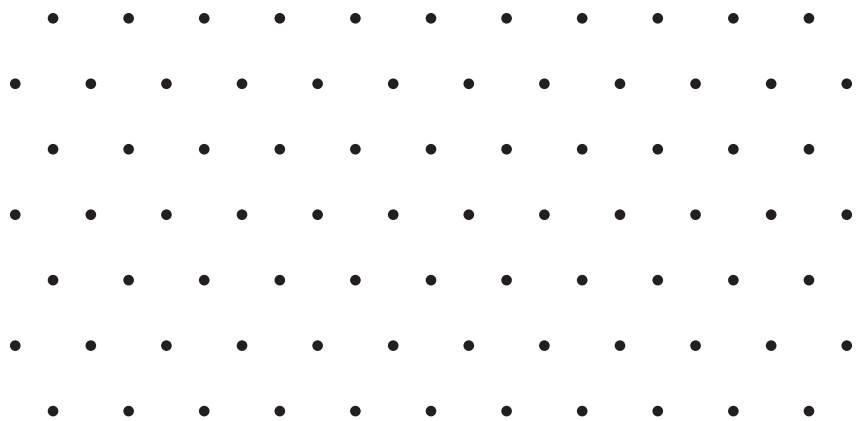
   Use the drawing to explain or show your reasoning.

3. Discuss the drawings with your group. Check if they agree with your conclusions.

Activity 2

To Cross or Not to Cross

Here is another field of dots. Each dot represents a point.



1. Draw a line through at least 2 points. Label it Line H.
2. Draw another line that goes through at least 2 points and intersects your first line. Label it Line G.
3. Can you draw a new line that you think would never intersect:
   a. Line H? If so, draw the line. If not, explain or show why it can't be done.
   b. Line G? If so, draw the line. If not, explain or show why it can't be done.

4. Here is a trapezoid.

   Do you think its top and bottom sides are parallel? What about its left and right sides? Explain or show how you know.

If you have time: Can you draw a new line that would intersect neither Line H nor Line G? If so, draw the line. Explain how you know the lines would never cross. If not, explain why it can't be done.