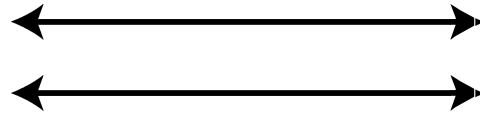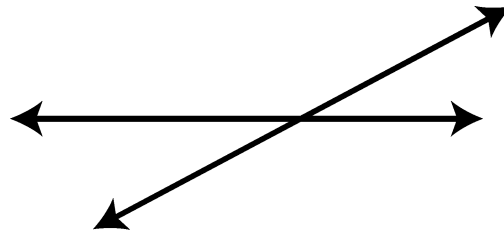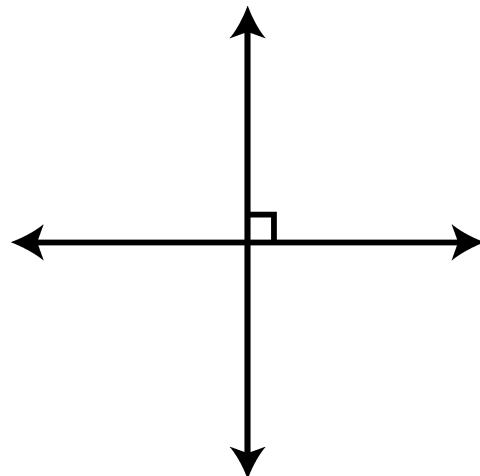# Parallel, Perpendicular & Intersecting Lines

Parallel Lines are lines that are always the same distance apart. They will never cross or intersect. Make 2 parallel lines on your geoboard. Make 3 lines on your geoboard that are all parallel.

Intersecting Lines are lines that intersect or cross each other. Make 2 intersecting lines on your geoboard.
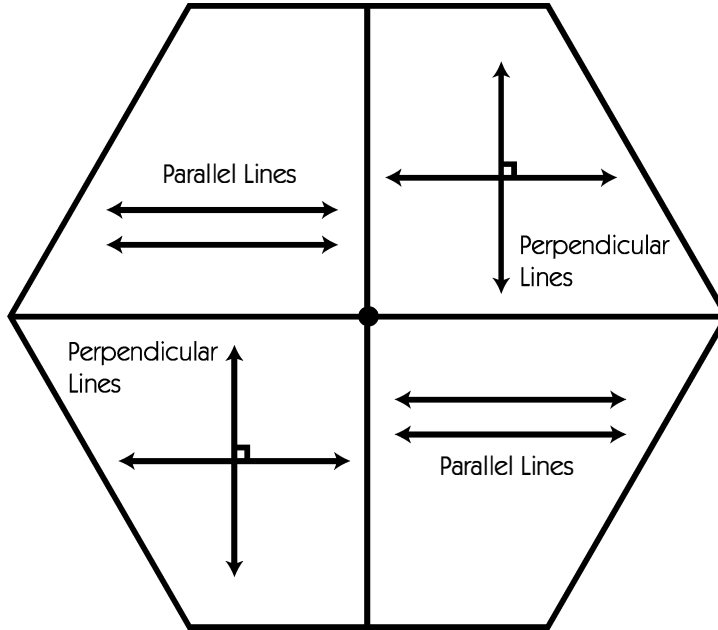
Perpendicular Lines are special intersecting lines. Where they cross, they form a right angle. Make 2 lines on your geoboard that are perpendicular.

Dots & Lines Gameboard

Blue Team _____   Red Team _____

Dots & Lines Game Record Sheet
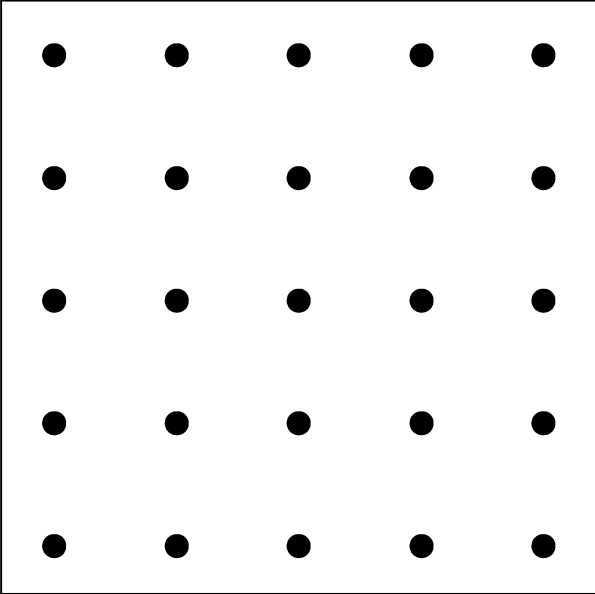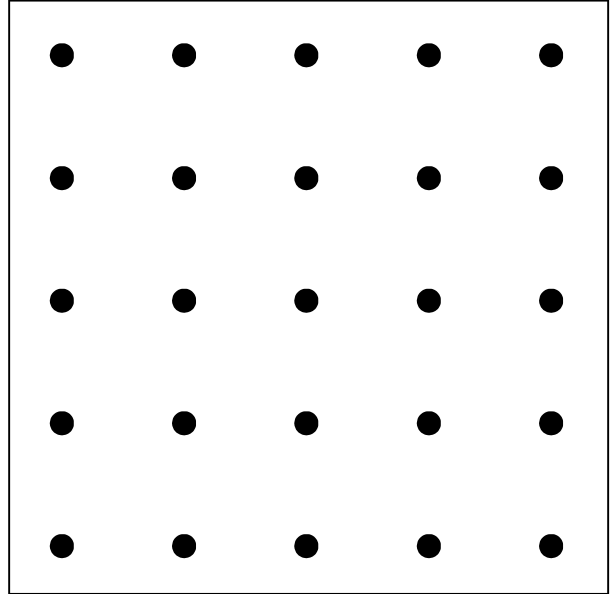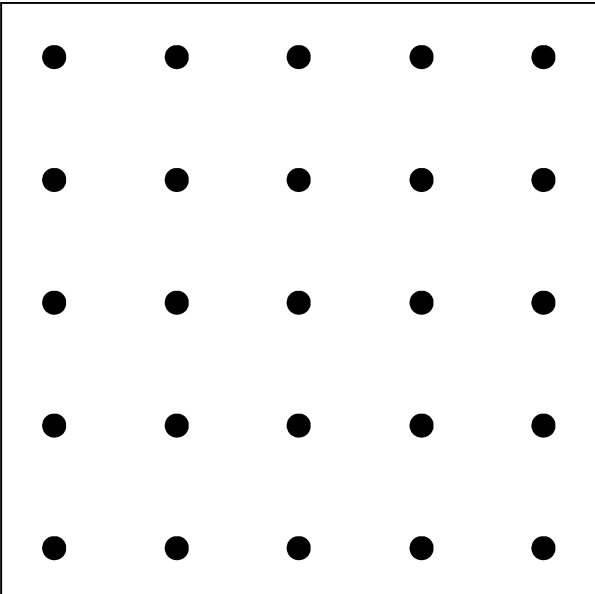
Blue Team _____   Red Team _____

Game 1

Score: Blue _____   Red _____

Game 2

Score: Blue _____   Red _____

Game 3
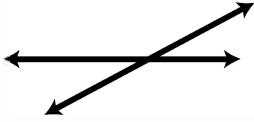
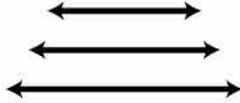Score: Blue _____   Red _____

Game 4
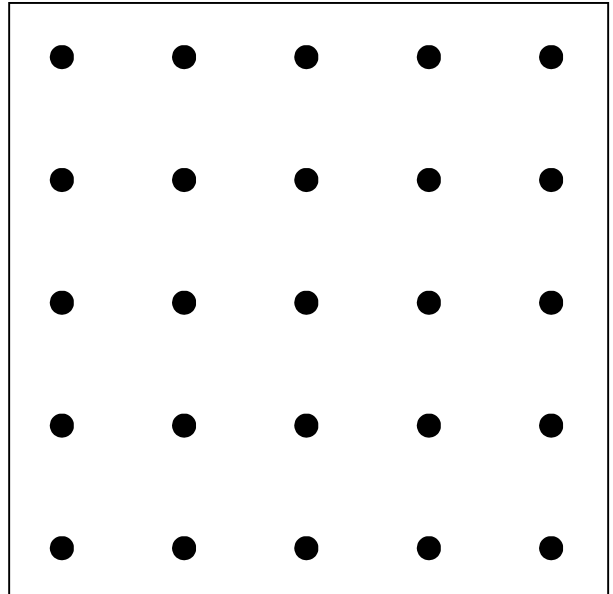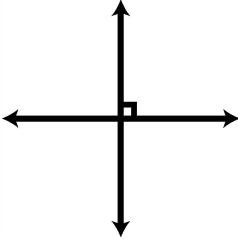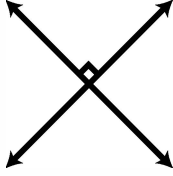
Score: Blue _____   Red _____

Set C1 ★ Independent Worksheet 1
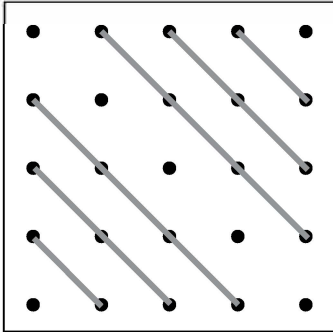
INDEPENDENT WORKSHEET

Lines & Designs

1 Fill in the bubbles in front of the words that describes each set of lines below. Then explain your answer. How do you know? The first one is done for you.

example	**a**
● intersecting lines ○ parallel lines ○ perpendicular lines How do you know? *I know these are intersecting lines because they cross. I know they're not perpendicular because they don't cross at right angles.*	○ intersecting lines ○ parallel lines ○ perpendicular lines How do you know?
b	**c**
○ intersecting lines ○ parallel lines ○ perpendicular lines How do you know?	○ intersecting lines ○ parallel lines ○ perpendicular lines How do you know?

2 Get a geoboard and some colored rubber bands. Use them to make each of the designs described below. Then use regular and colored pencils to record your work on this sheet.
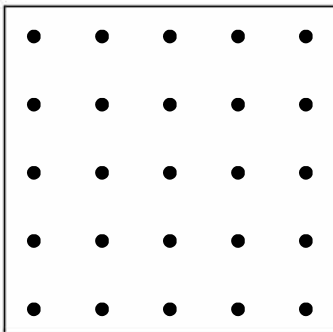
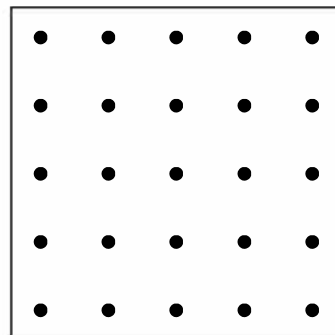|	
example Make a design with 6 gray parallel lines.	**a** Make a design with 6 red intersecting lines.
b Make a horizontal blue line all the way across the board. Then add 4 green lines that are all perpendicular to the blue line.	**c** Make a yellow diagonal line all the way across the board. Then add 4 blue lines that intersect with the yellow line.
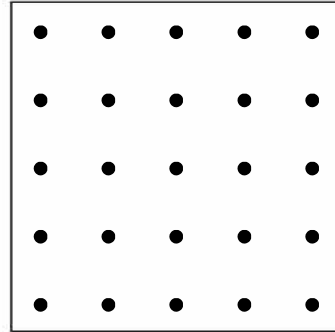
Set C1 ★ Independent Worksheet 2

INDEPENDENT WORKSHEET

Alphabet Lines

1 The kids in Mrs. Odell's third grade were learning about different kinds of lines. Hector made the letter H on his geoboard and said, "Hey look! These 2 lines I'm pointing to are parallel."
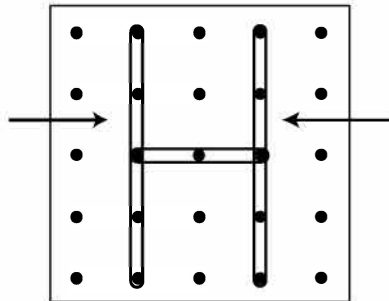
a Get a geoboard and some colored rubber bands. On your geoboard, make 4 other capital letters that have 2 or 3 parallel lines in them. Use red rubber bands to make the lines that are parallel to each other. Use a ruler and colored pencils to record your work below. Show the parallel lines in red.
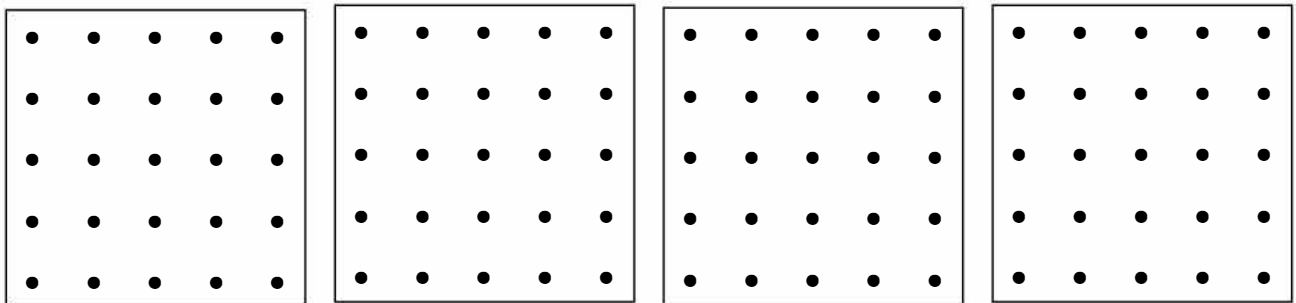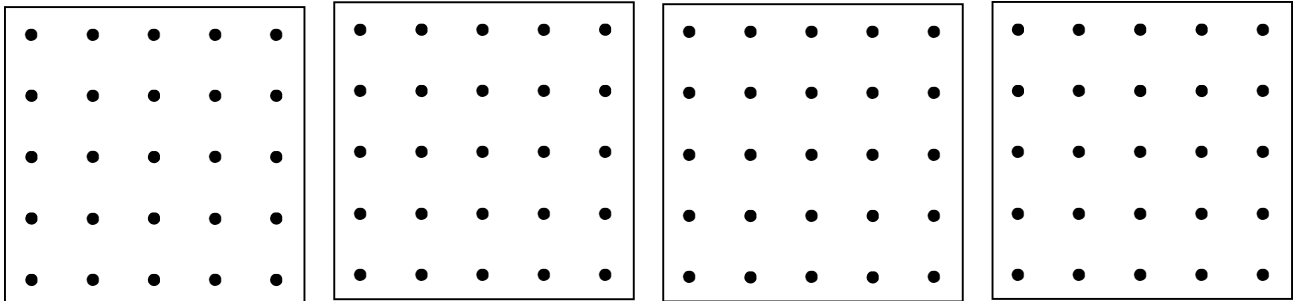
b How do you know for sure that the lines you made in red are parallel?
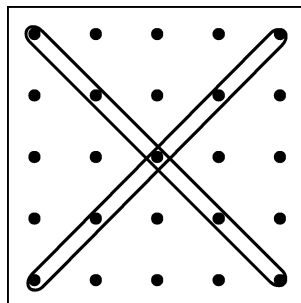
2 Then Lani said, "The two lines in the first letter of my name are perpendicular. You can see that they meet at a right angle on the board."
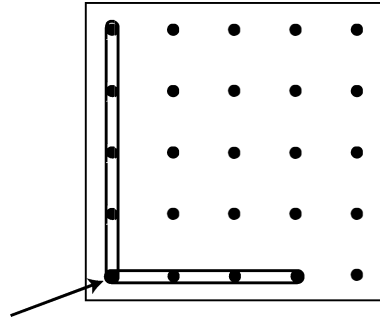
On your geoboard, make 4 other capital letters that have perpendicular lines. Record your work below. Draw arrows to show where the lines meet at right angles.

**3** Then Xavier said, "I think the first letter of my name has intersecting lines."

a Do you agree with him? Why or why not? If you do, draw an arrow to show where the 2 lines intersect.

**3b** Circle the letter that has 2 intersecting lines.

c   j   x   i   s   l

4 Write the first letter of your first name in this box. Label it to show any lines that are parallel, perpendicular, or intersecting. If the first letter of your first name is completely curved (like O or C), choose a different letter in your first or last name that has straight lines.
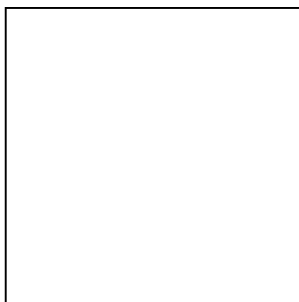
⚡ CHALLENGE

5 Circle True or False to show which statements below correctly descibe these lines.
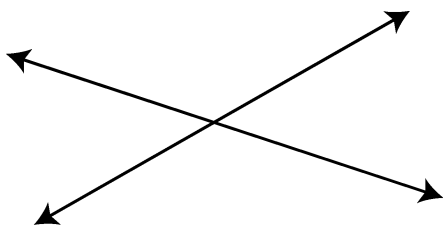
a The two lines above are parallel.   True   False

b The two lines above are pependicular.   True   False

c The two lines above are interesecting.   True   False

6 Two lines that are not parallel and not perpendicular are called oblique lines. Circle all the pairs of oblique lines below.