

Create a "Geometry Star"

Make an art piece using just a pencil and ruler!

Create a “Geometry Star”

This is one of my favorite back-to-school activities to do with upper elementary students. It’s a simple review of point, line, line segment, endpoints, and ruler use, plus the “stars” turn into unique, colorful art work for the classroom, just in time for back-to-school night (hopefully!)

Materials for lesson:

- Blank 8.5 x 11” paper
- Pencil
- Ruler
- Colored pencils (crayons or markers would work, too, but colored pencils are recommended)

Vocabulary used:

- Point
- Line
- Line segment
- Endpoints
- Acute angle
- Right angle
- Obtuse angle

Instructions

1. Begin by reviewing what a point, line, line segment, endpoints, and acute, right, and obtuse angles are.

Point: A position or location represented by a very small dot made by a sharp pencil; it has no diameter.

Line: A series of points that goes on indefinitely in the same direction.

Line segment: Part of a straight line, limited by two end points.

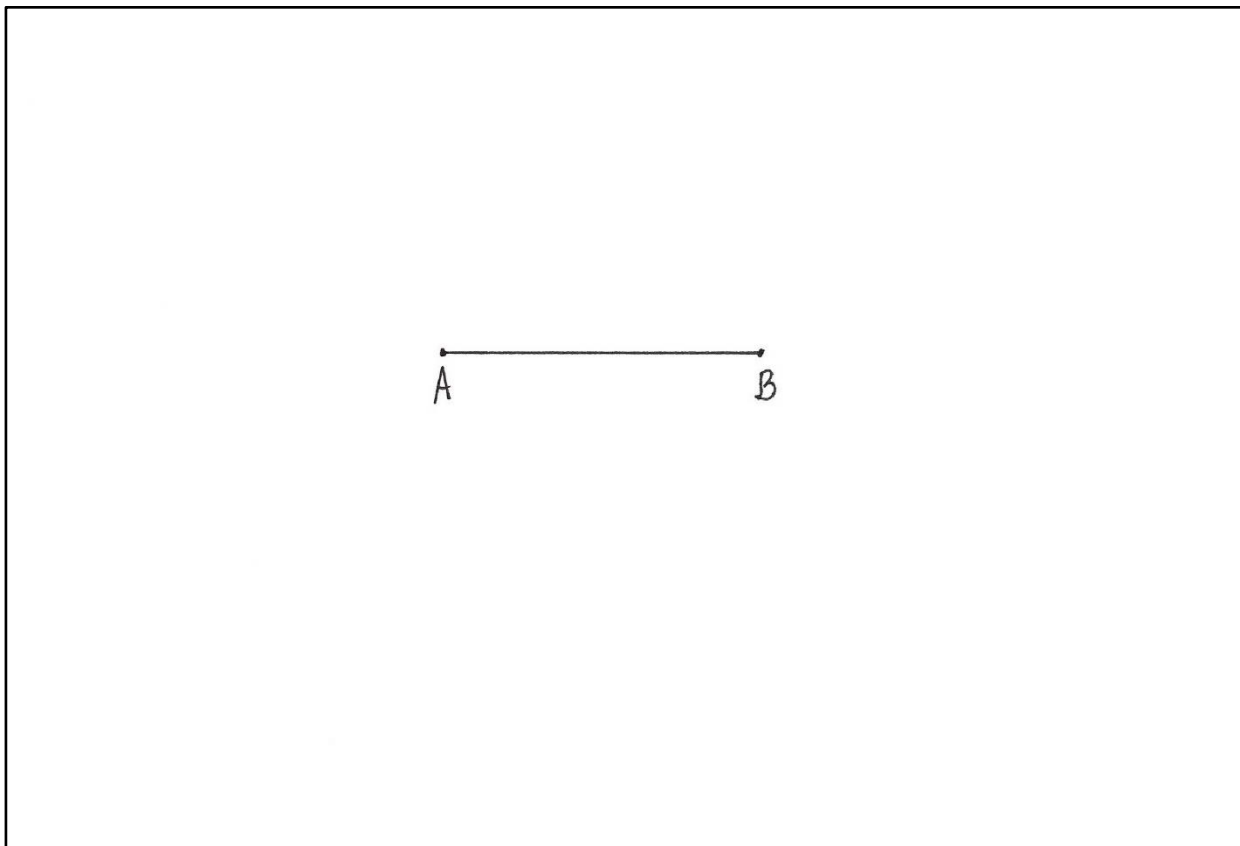
Endpoints: Two points that define a line segment, one at each end.

Acute angle: An angle with fewer than 90 degrees.

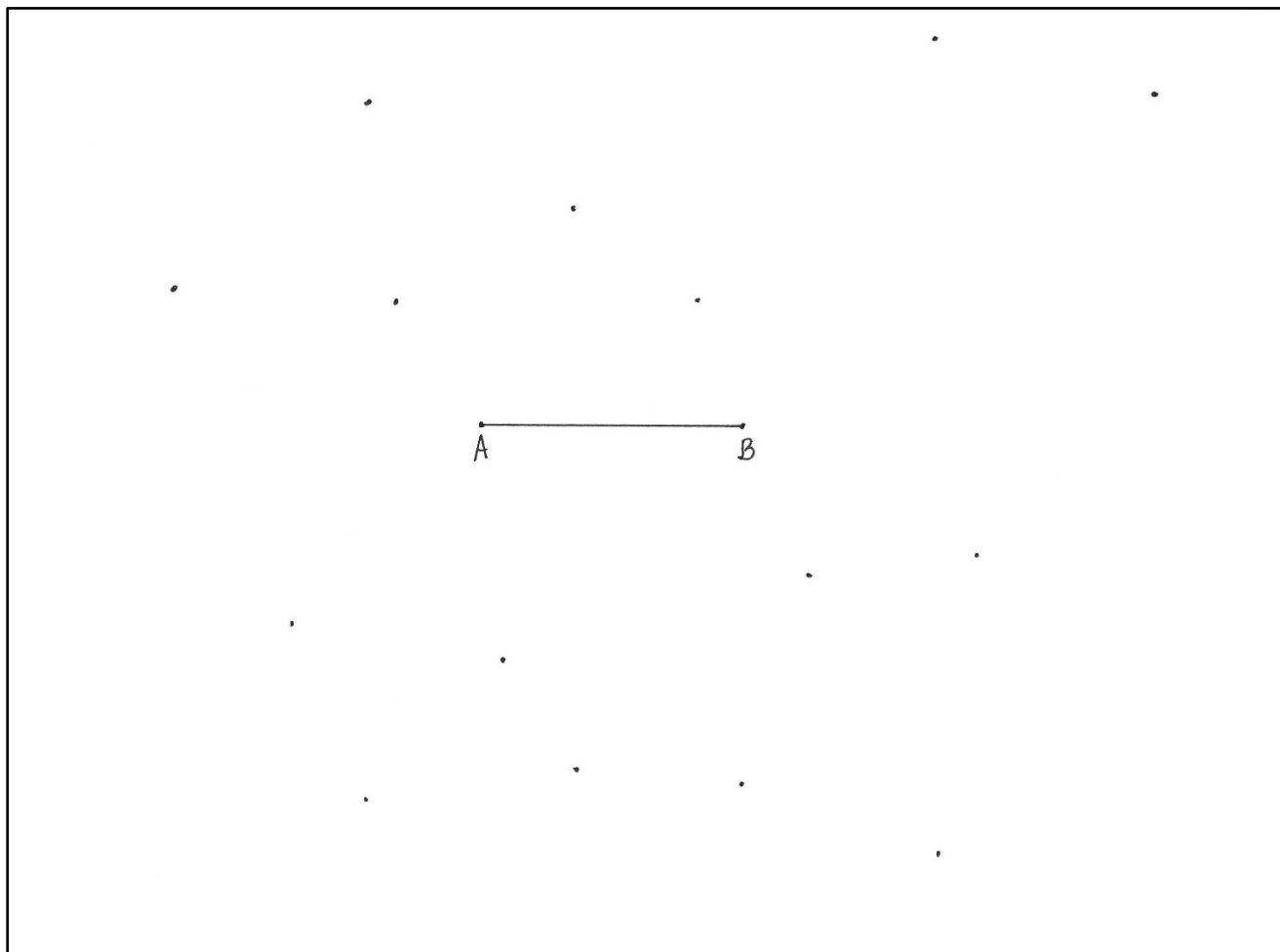
Right angle: An angle with exactly 90 degrees.

Obtuse angle: An angle greater than 90 degrees but less than 180 degrees.

- Using the ruler, draw a 2" line somewhere near the middle of the paper.
- Create a line segment by adding endpoints to the ends of the line and label the endpoints as A and B.

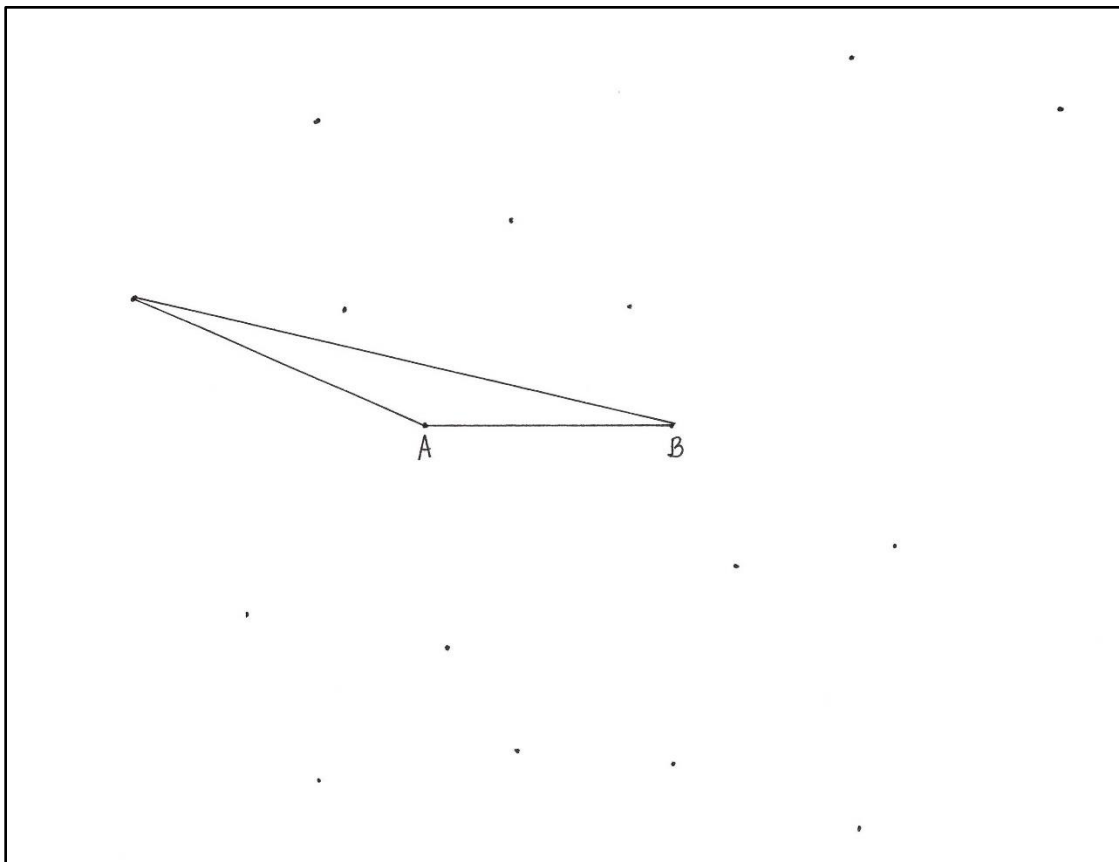


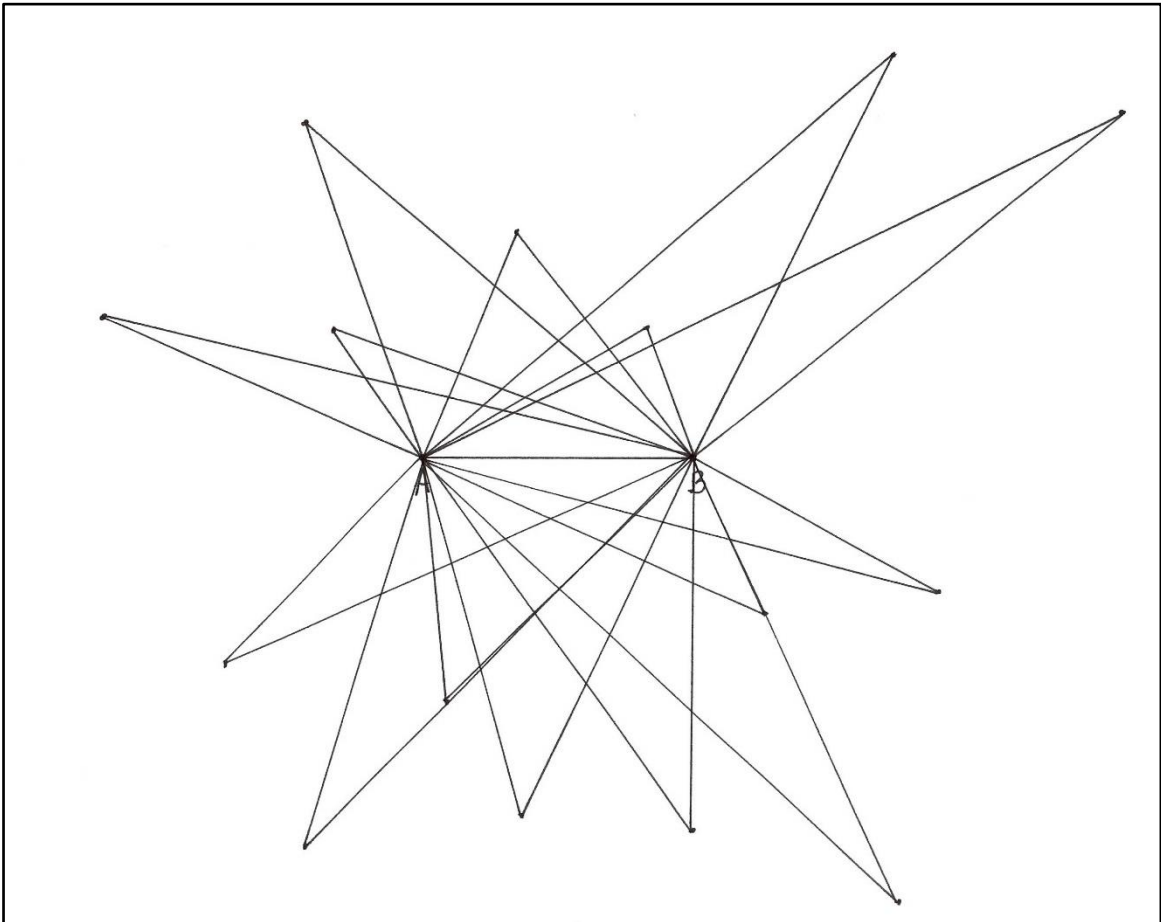
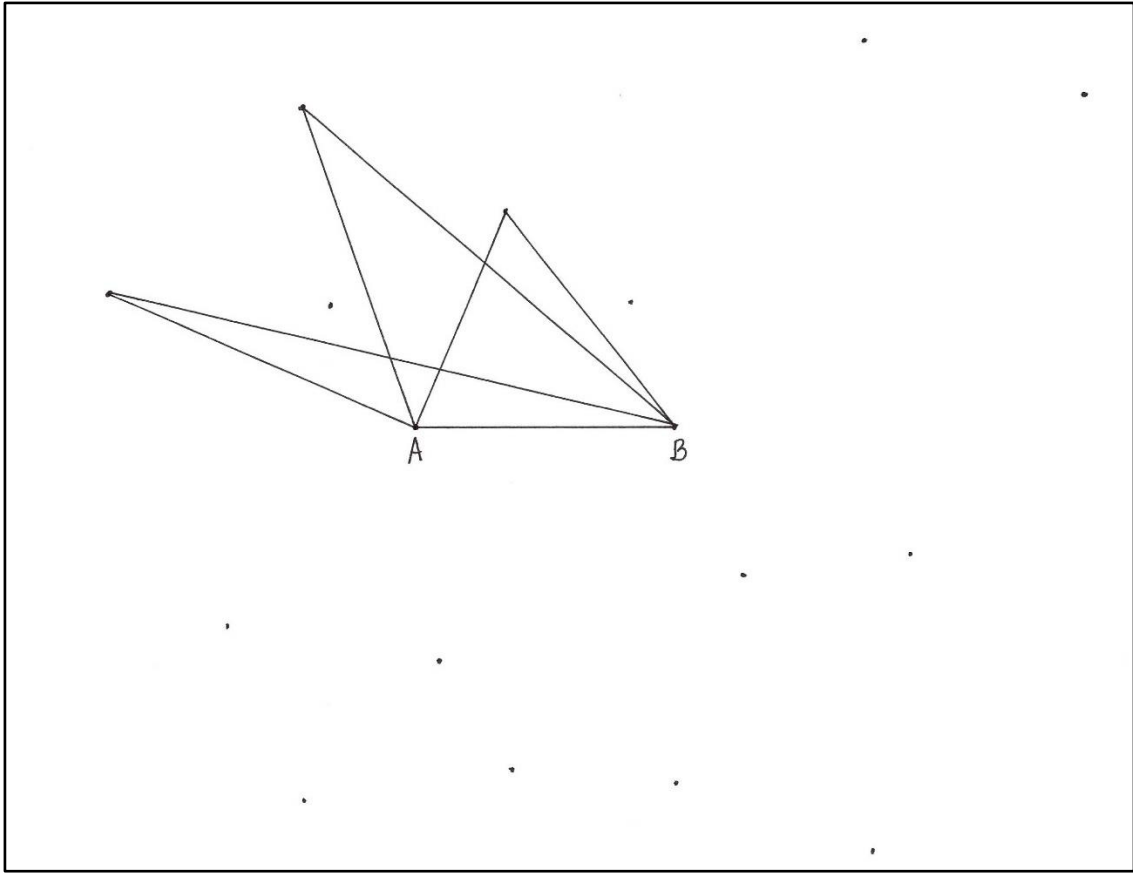
4. Draw 15 – 20 points (dots) around the paper, above and below the line segment, making sure to **not** draw any points on line segment AB.



5. Using the ruler, draw lines from each point made to point A and to point B.

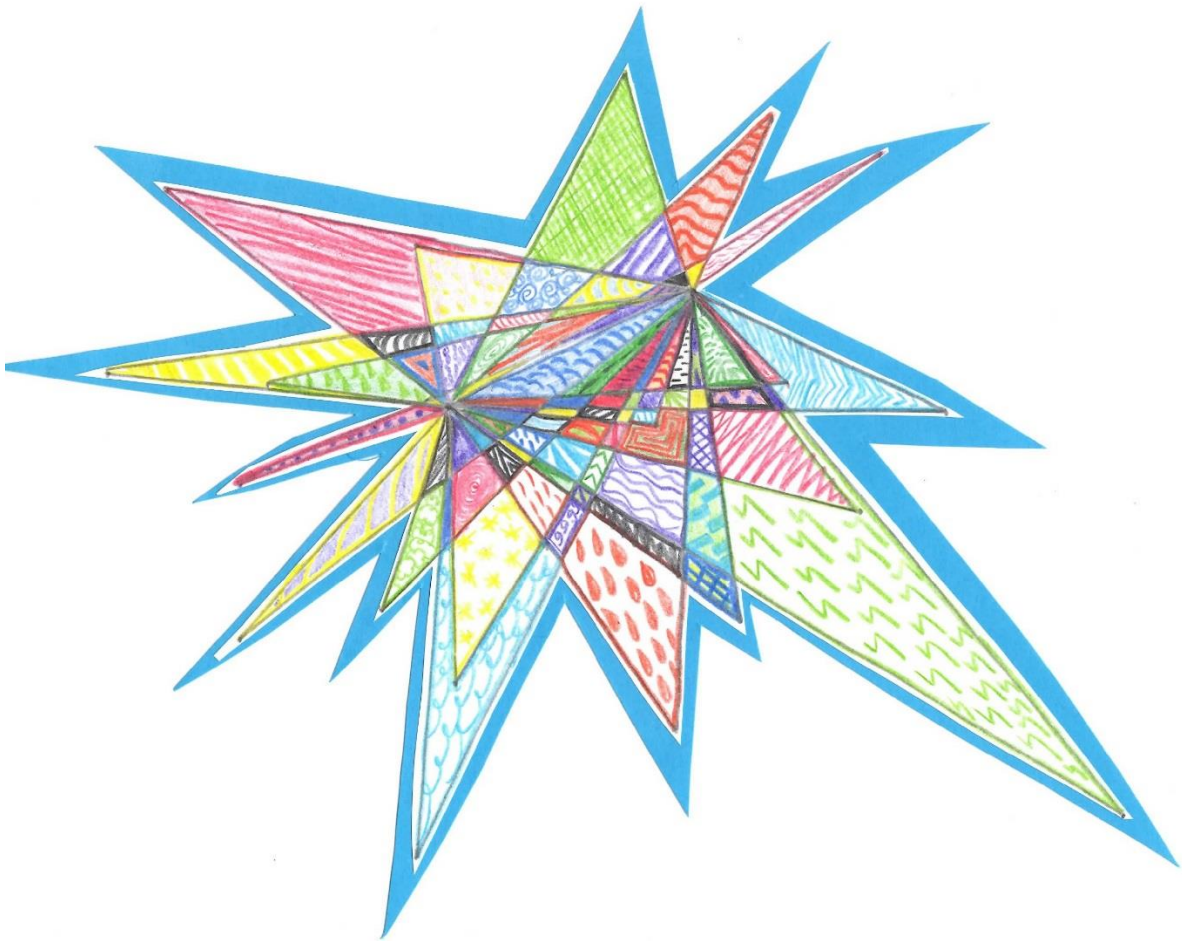
Each time a point is connected to the line segment, have the student think about what type of angle (acute, right, obtuse) has been created. Can the student name them as each angle is created?





6. Once all lines are drawn, color each piece of the “star” a different color or pattern. Colored pencils are recommended.
7. If desired, cut out the star and mount the star on colored paper. Trim the colored paper down to approximately $\frac{1}{2}$ ” around the shape of your star.

An example of a finished star that has been cut out and mounted on colored paper:



Thank you to Anne Macomber for originally teaching this lesson to me at the Montessori Education Center of the Rockies.



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