

1.7

Getting Started


Objectives:


- Warm up to the ideas of the investigation.
- Use a hands on approach to develop mathematical habits of mind.

Geometry Notation:

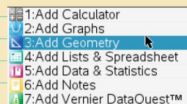
The notation $\sphericalangle ACB$ (“angle ACB”) means the angle formed by \overline{CA} and \overline{CB} .


Using the TI-Nspire

Power on the calculator 

If you are not on the home screen, press home 

Open a new Geometry document

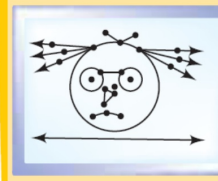


Press the menu button to locate the tools you will need to begin this investigation. 

For You to Explore

1. Use geometry software. Explore and ask questions until you can do the following.
 - Use line segments to draw a triangle.
 - Draw two circles. Connect them with a line segment. The segment's endpoints should be on the circles.
 - Move a point, segment, or circle in each of the first two drawings.
 - Draw a ray.
 - Draw a line.
 - Draw a point that travels *only* along a segment.

A bit of everything

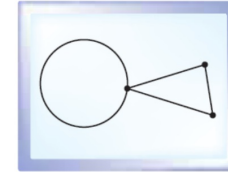


2. a. Use the point tool to place two points on your screen as shown below on the left. Then use only the circle tool to complete the picture below on the right. Make sure that your picture does not contain more than four points.

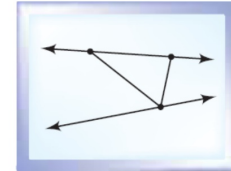


- b. Now move each point around and describe the effect on the drawing. It may help to label the points.

3. Construct a triangle with two vertices that can be moved about freely and one vertex that can only be moved on a circle.



4. Draw two lines. Construct a triangle. Fix one vertex on one of the lines. Place the other vertices so that you can move both of them, but only along the other line.



On Your Own

Classwork p.38 (5,6,&7)

5. **Write About It** Write directions for drawing the figures in Problems 2–4. Include directions for how to get a point to “stick” to a line or circle.
6. Buddy made the following sketch. He intended to fix one vertex on one line. He also wanted to place the other vertices so that he could move both of them, but only along the other line.



When the teacher checked Buddy's sketch, she selected a point and moved it to a new position, as shown below.



- a. What mistake did Buddy make?
 b. How can he fix his mistake?
7. If a line is perpendicular to \overline{BC} , must the line intersect \overline{BC} ?