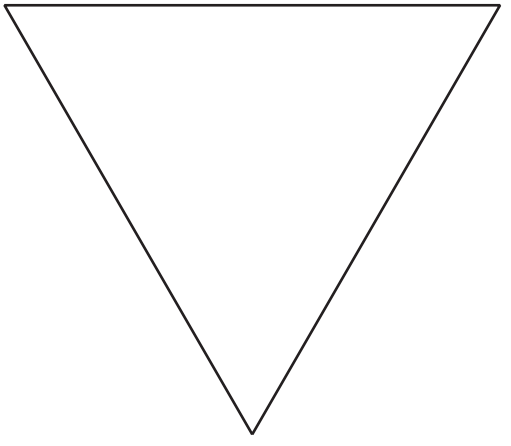
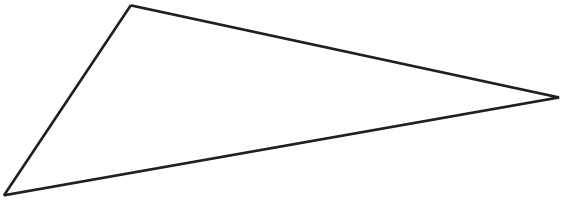
Unit 7 Lesson 7: Circles in Triangles

1 The Largest Circle (Warm up)

Student Task Statement

Use a compass to draw the largest circle you can find that fits inside each triangle.



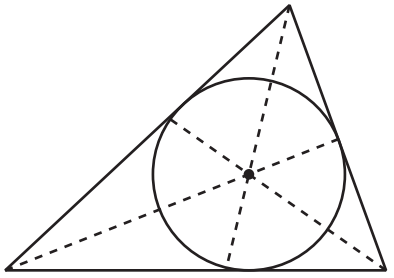


2 The Inner Circle

Student Task Statement

1. Mark 3 points and connect them with a straightedge to make a large triangle. The triangle should *not* be equilateral.
2. Construct the incenter of the triangle.
3. Construct the segments that show the distance from the incenter to the sides of the triangle.
4. Construct a circle centered at the incenter using one of the segments you just constructed as a radius.
5. Would it matter which of the three segments you use? Explain your thinking.

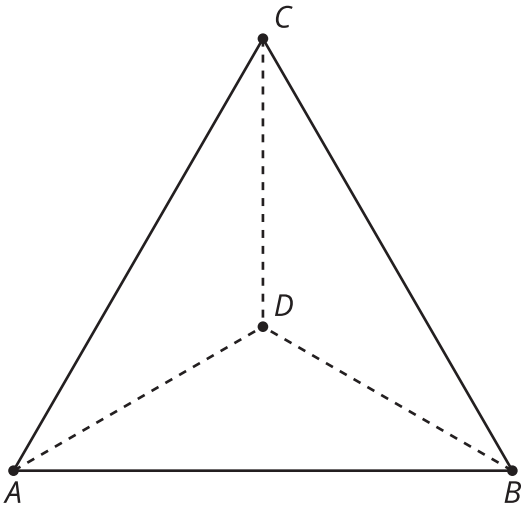
Activity Synthesis



3 Equilateral Centers

Student Task Statement

The image shows an equilateral triangle ABC. The angle bisectors are drawn. The incenter is plotted and labeled D.



Prove that the incenter is also the circumcenter.