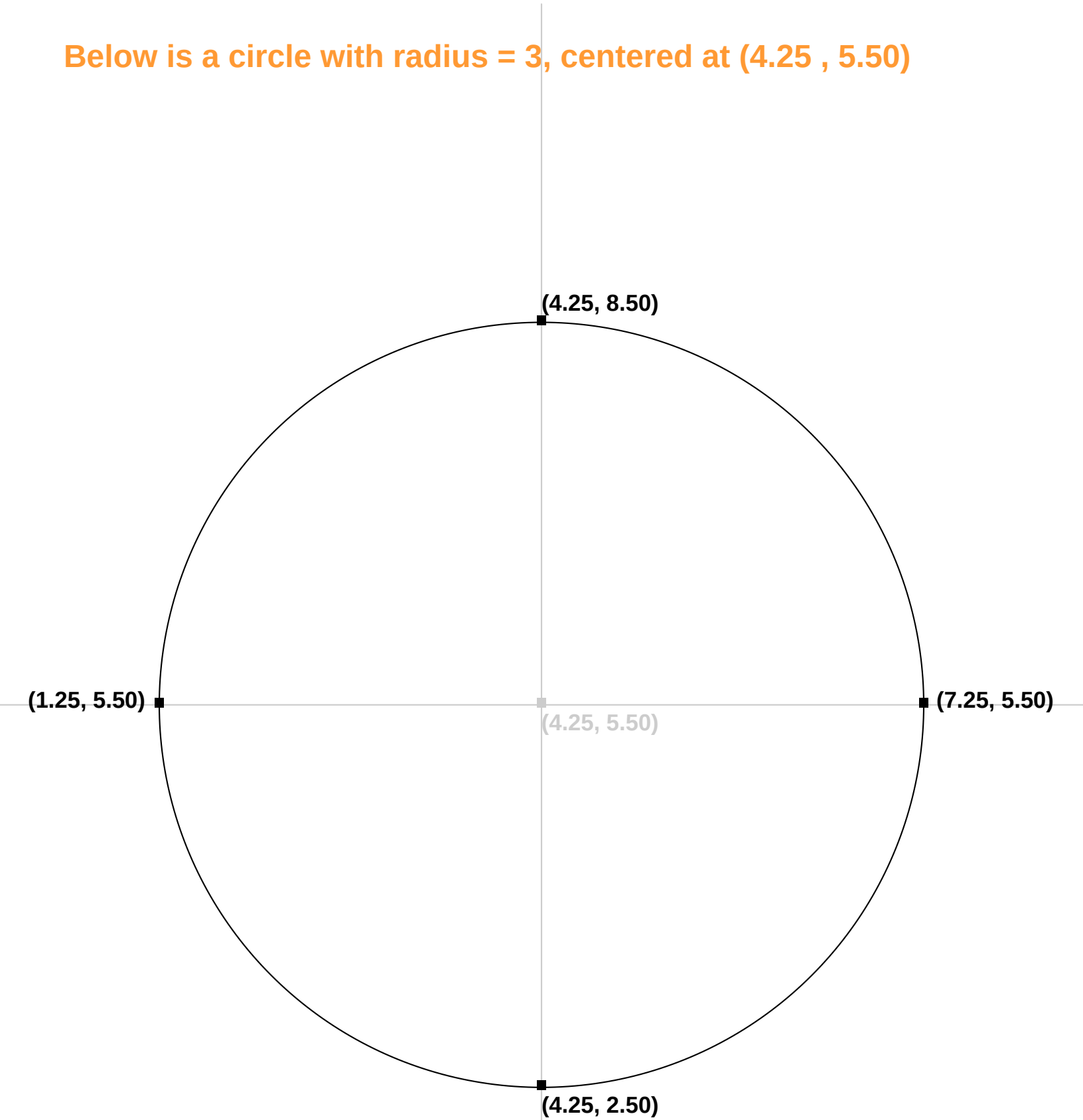
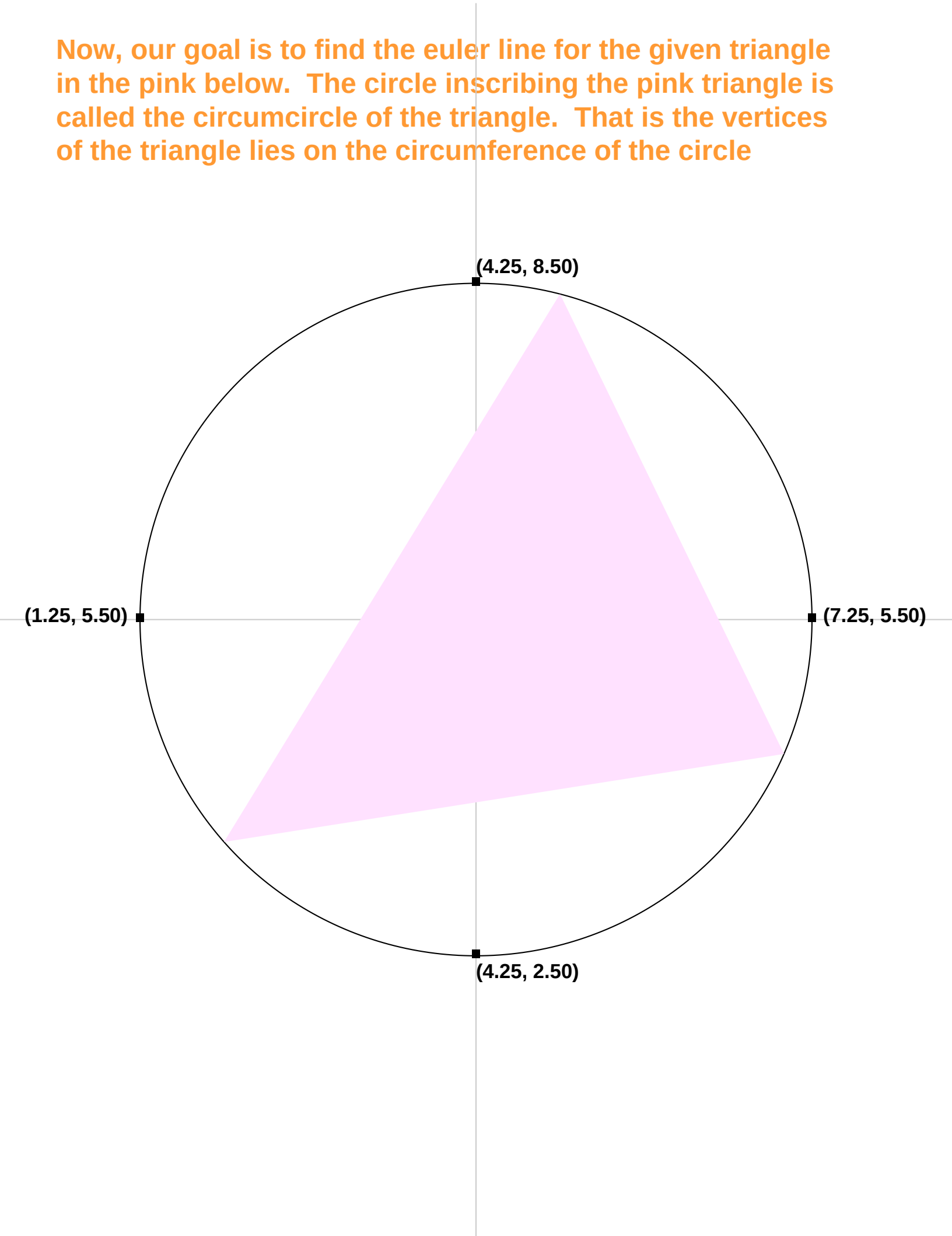
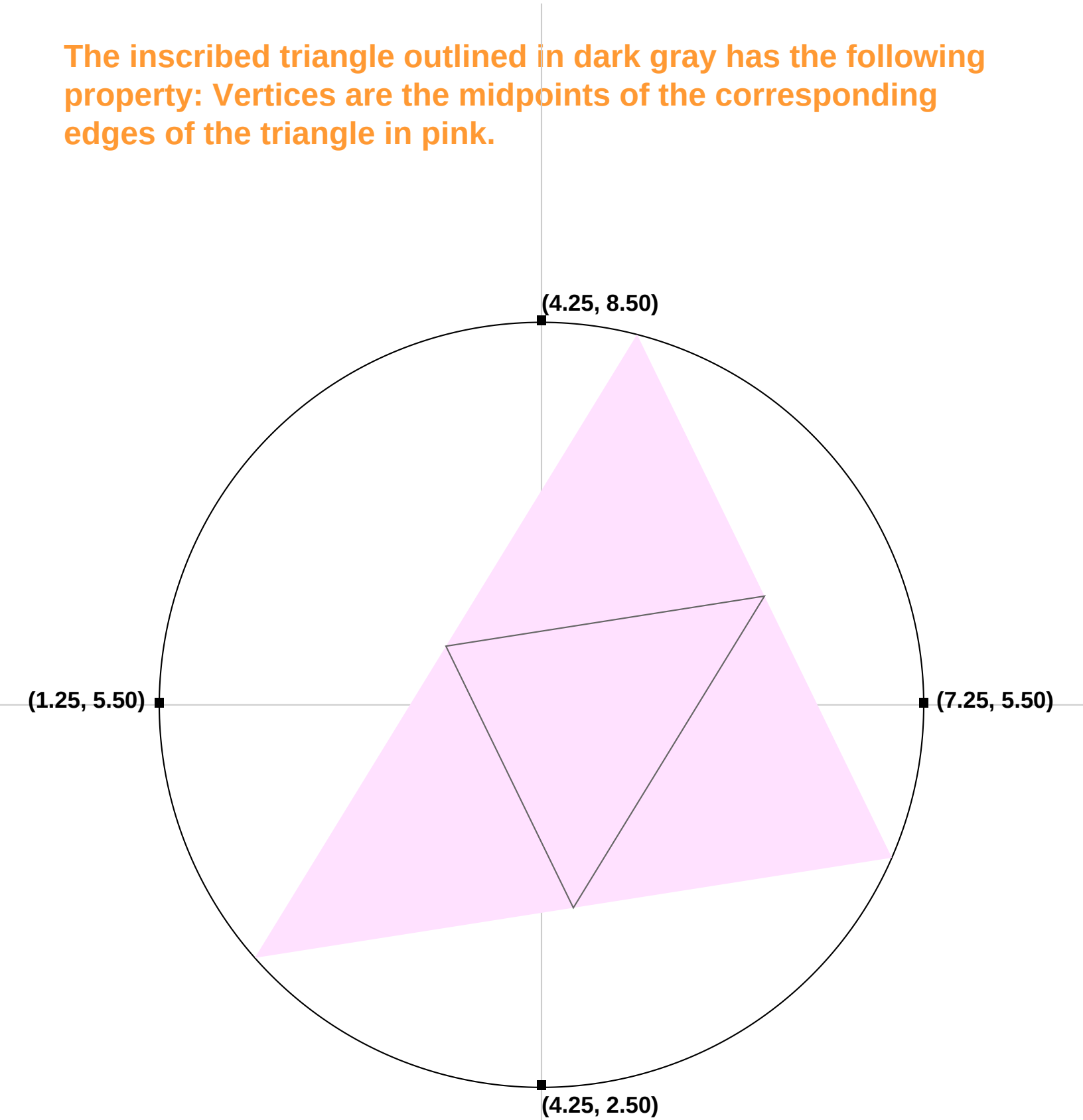
Below is a circle with radius = 3, centered at (4.25 , 5.50)



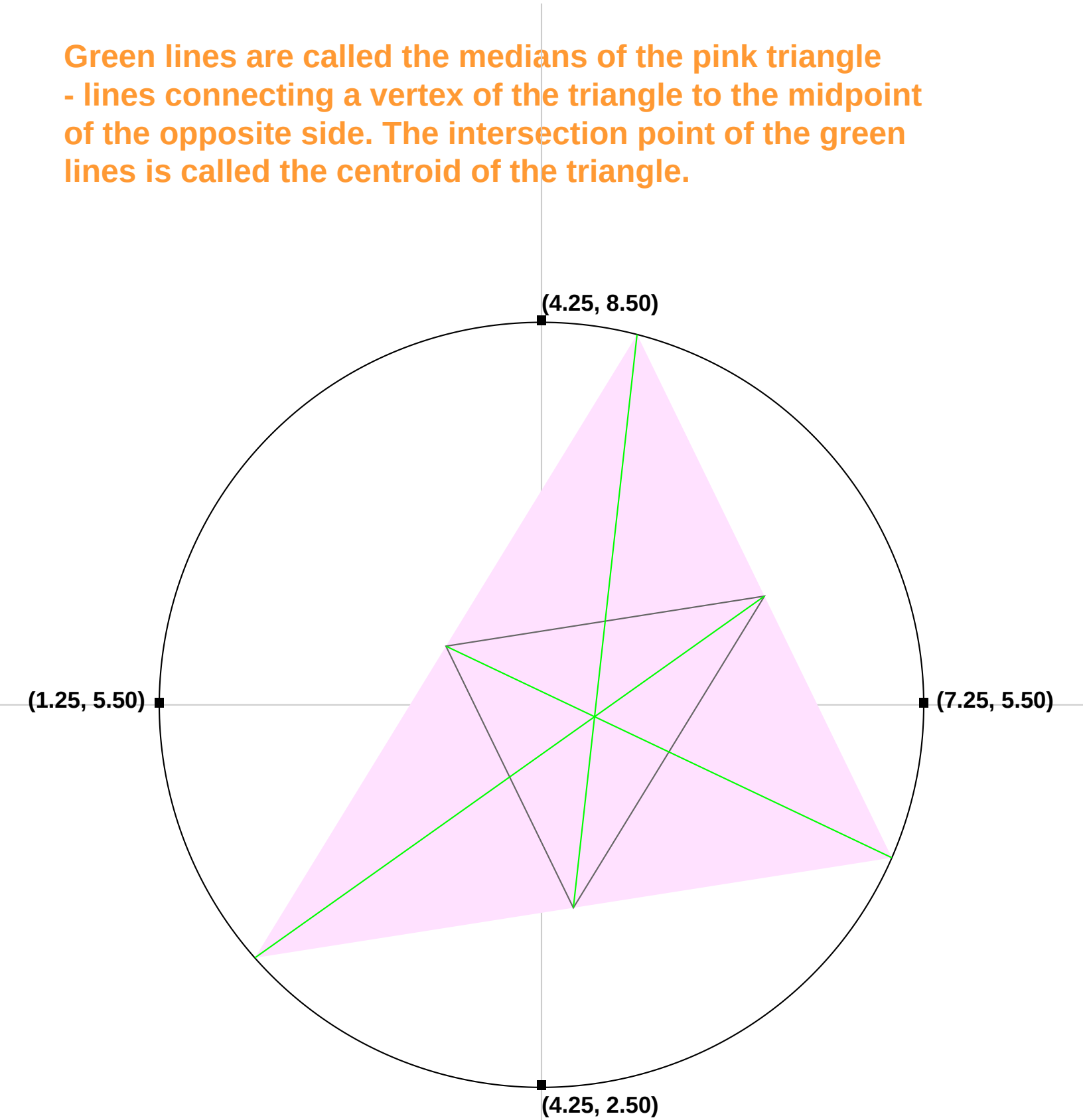
Now, our goal is to find the euler line for the given triangle in the pink below. The circle inscribing the pink triangle is called the circumcircle of the triangle. That is the vertices of the triangle lies on the circumference of the circle



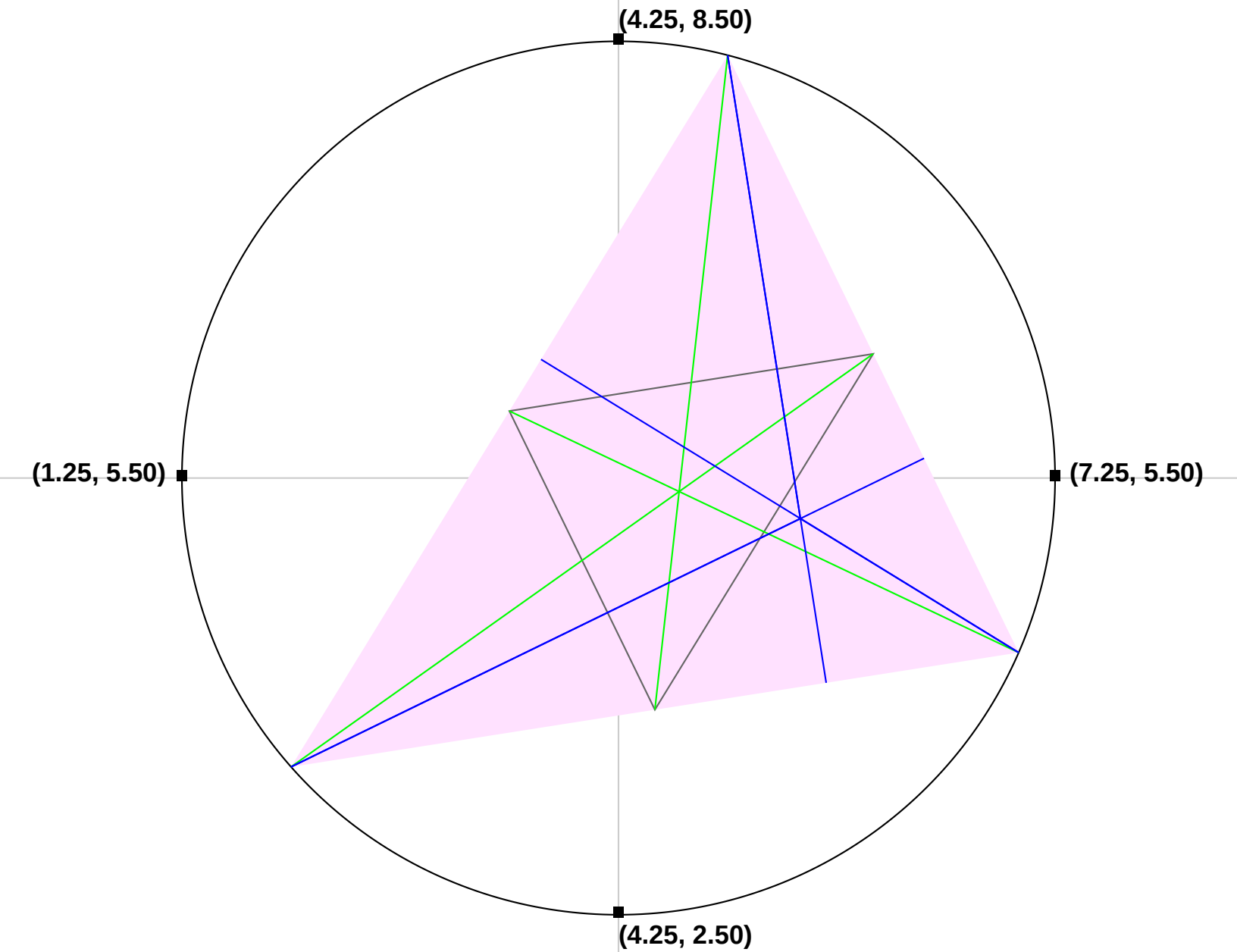
The inscribed triangle outlined in dark gray has the following property: Vertices are the midpoints of the corresponding edges of the triangle in pink.



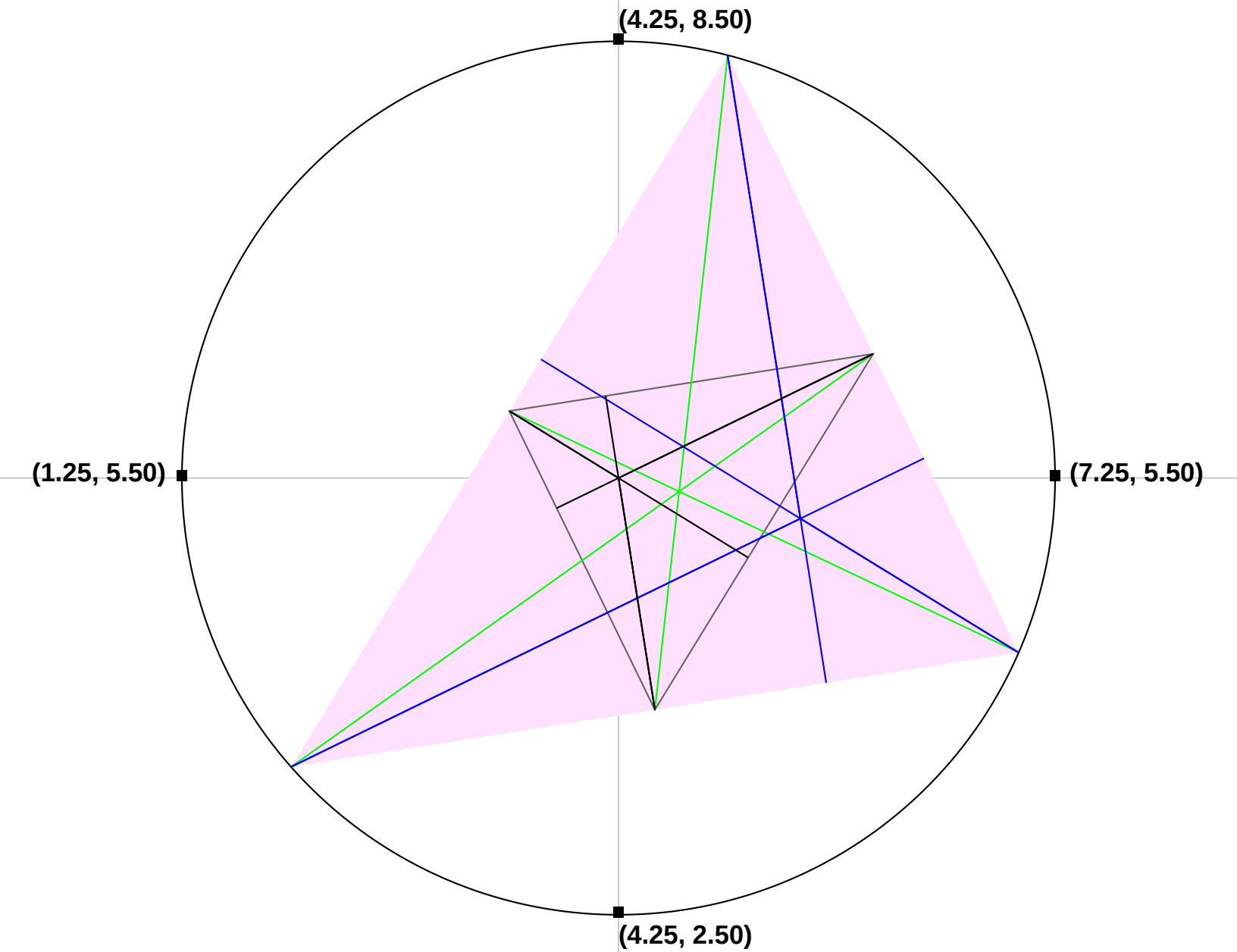
Green lines are called the medians of the pink triangle - lines connecting a vertex of the triangle to the midpoint of the opposite side. The intersection point of the green lines is called the centroid of the triangle.



What's special about the blue lines?
Each blue line is an altitude of the triangle - a line drawn through a vertex perpendicular to the side of the triangle opposite the vertex. The intersection point of the blue lines is called the orthocenter.



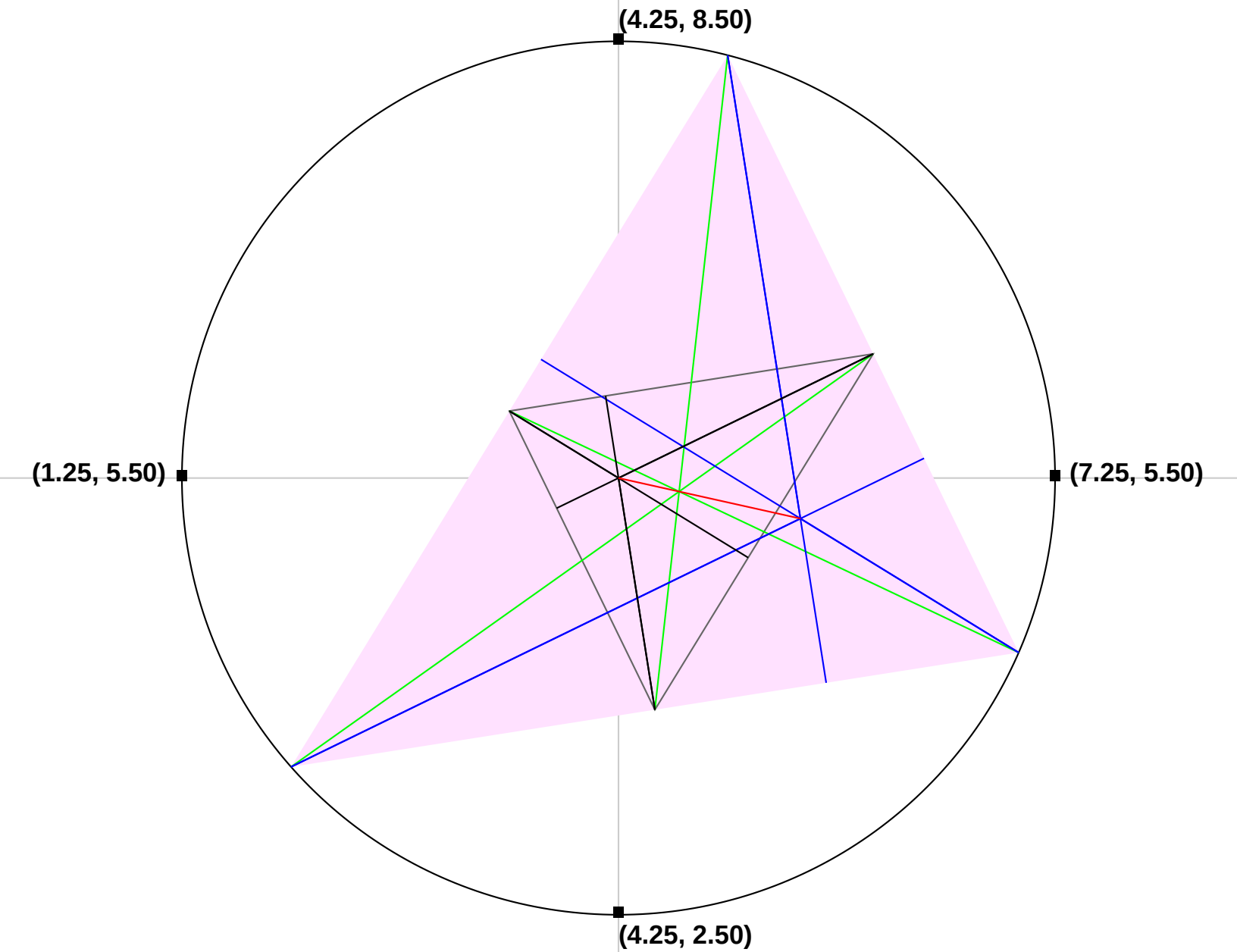
How about the black lines?
Each black line is an altitude of the inscribed triangle in dark gray. The intersection point of these black lines is the orthocenter of the inscribed triangle in dark gray. Notice that this intersection point is also the center of the circumcircle which we talked about earlier. The center of the circumcircle is called a circumcenter.

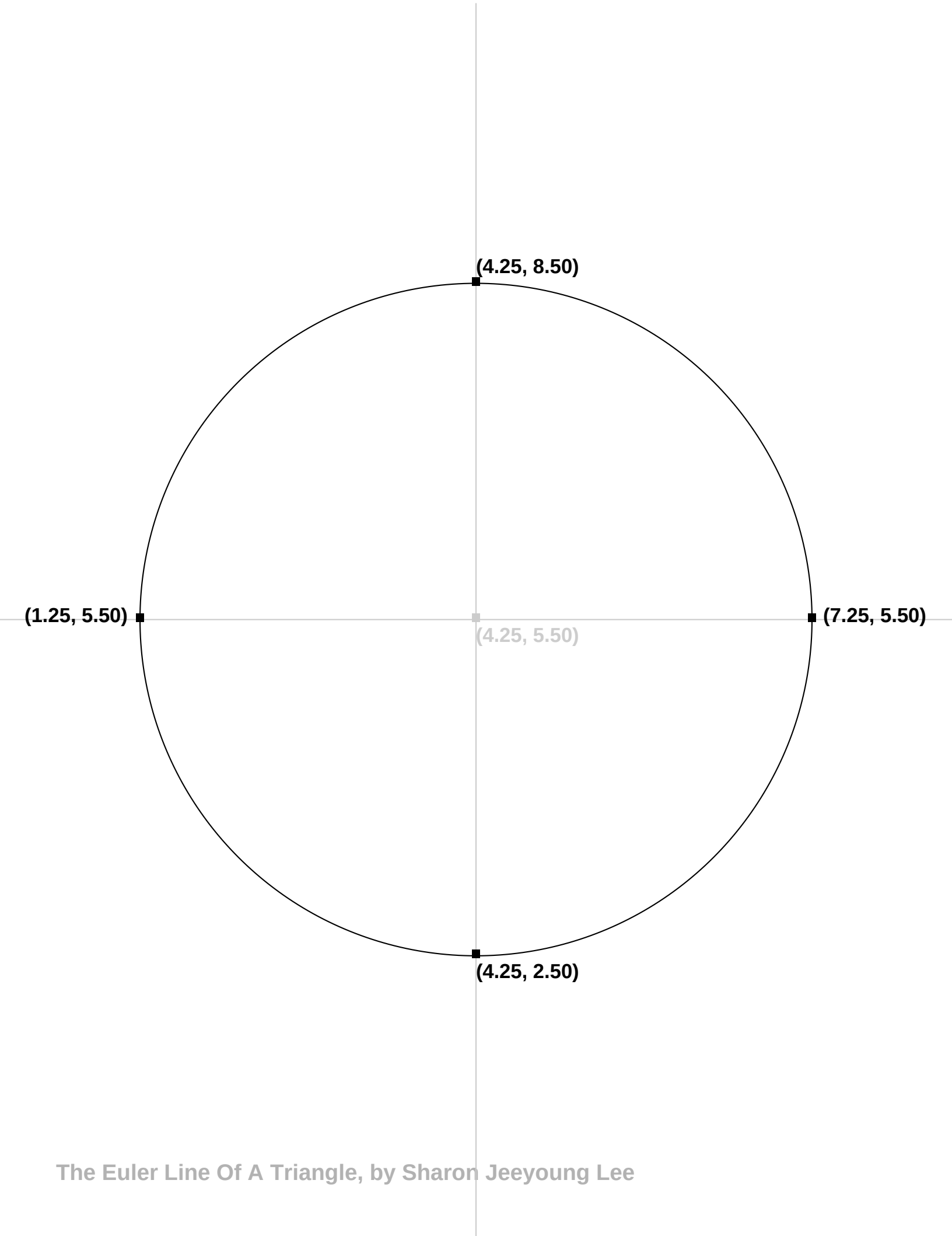


Let’s connect the following interception points:

- **the interception of the blue lines, the orthocenter**
- **the interception of the green lines, the centroid**
- **the interception of the black lines, the circumcenter**

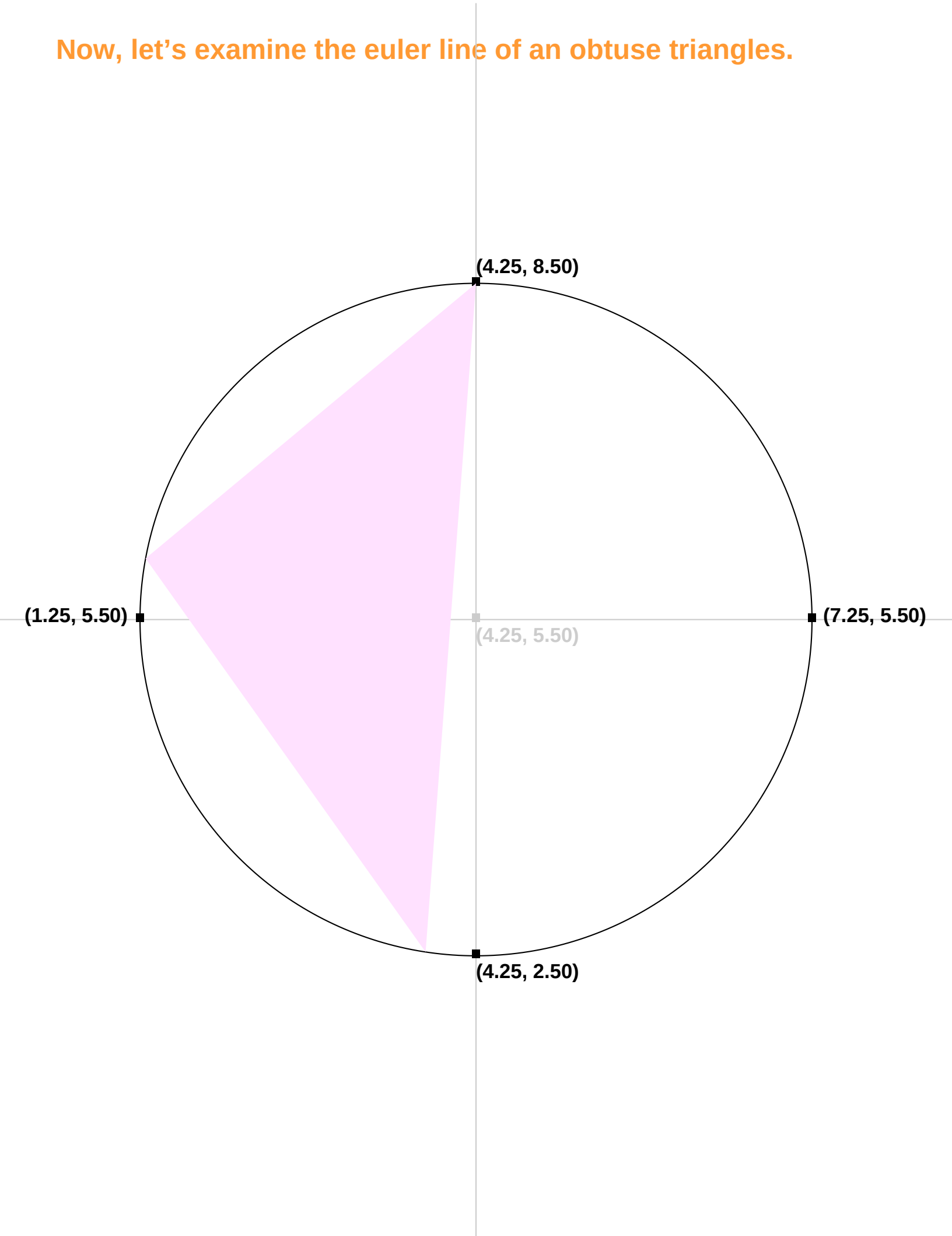
The result is the line in red - The EULER line of the pink triangle!

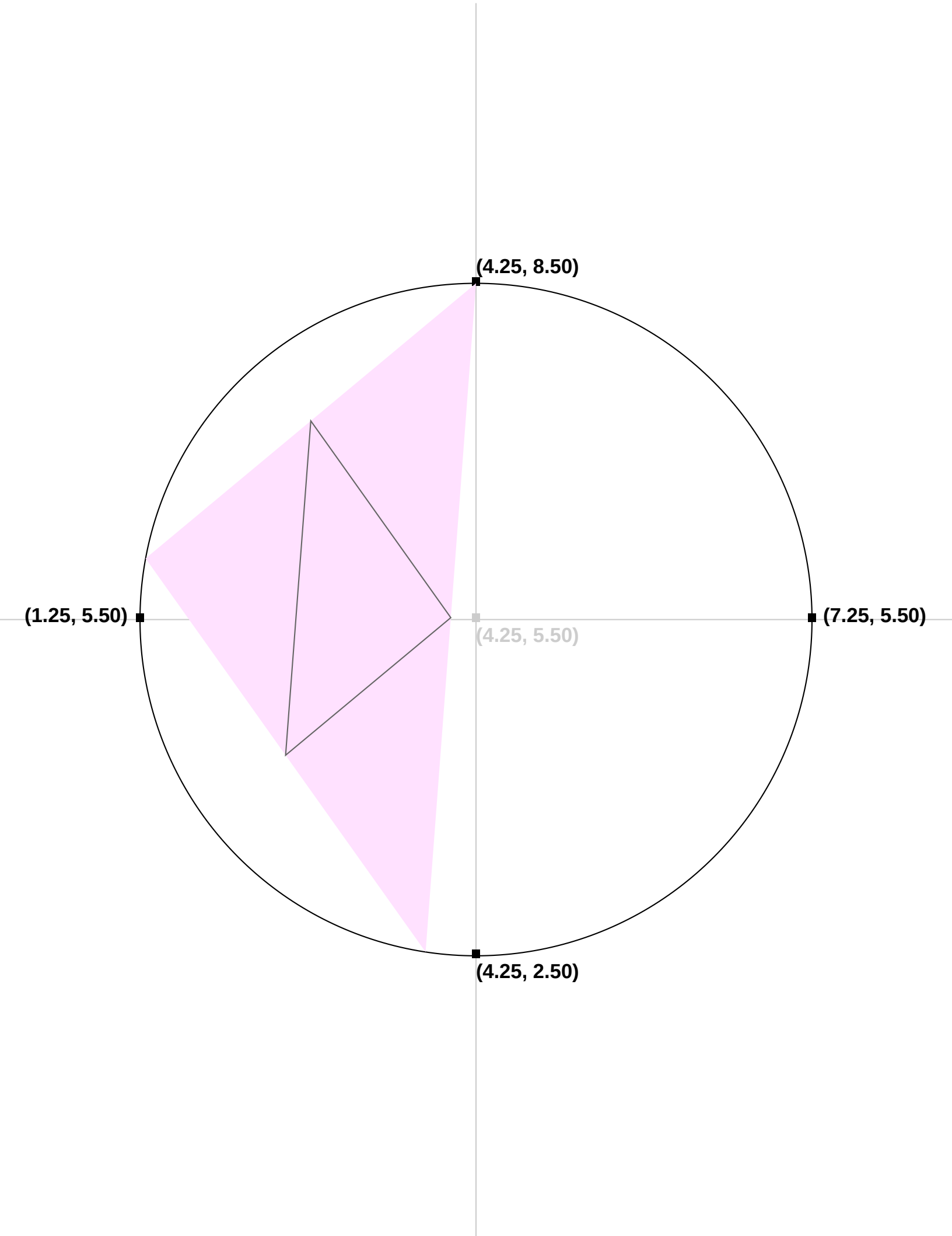


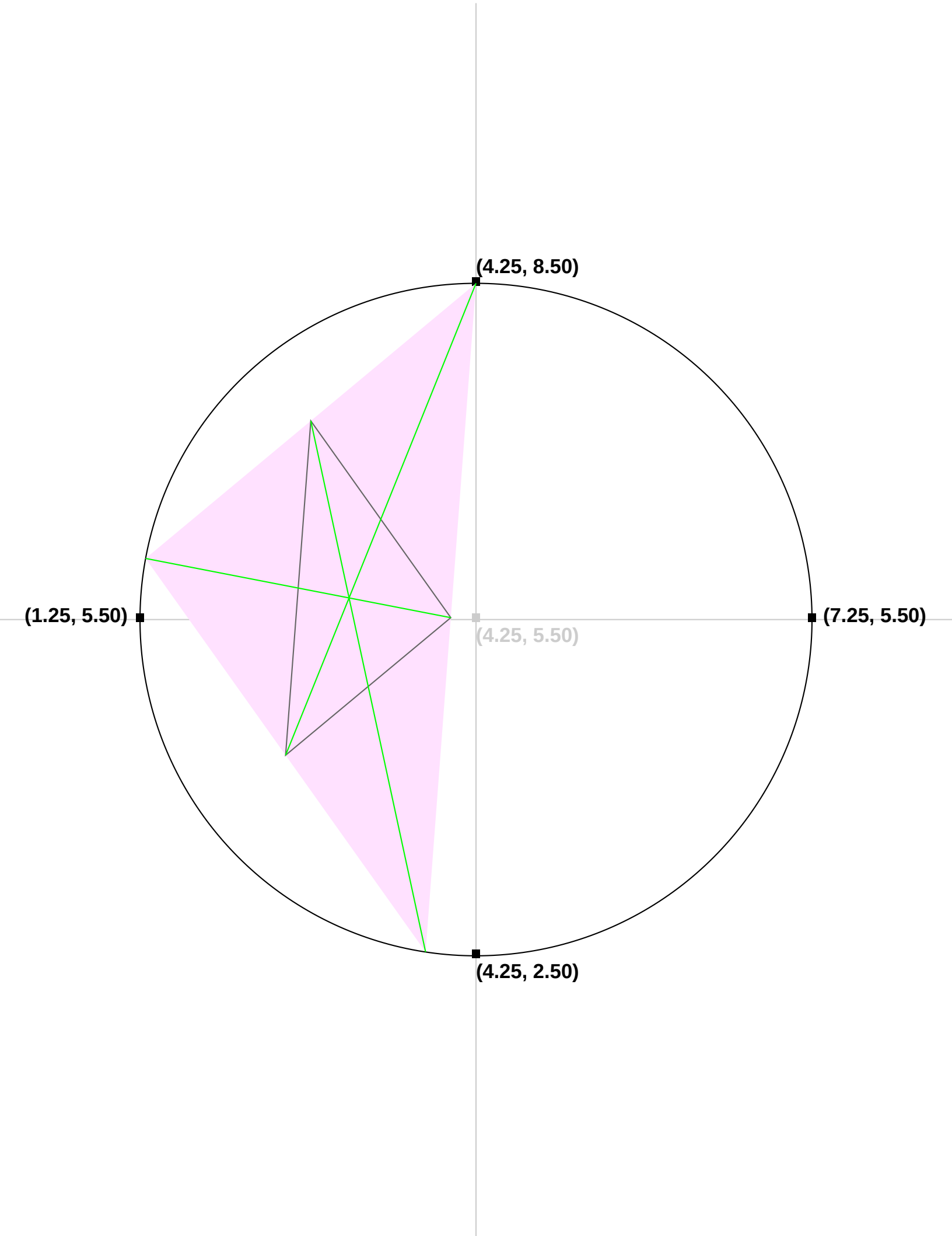


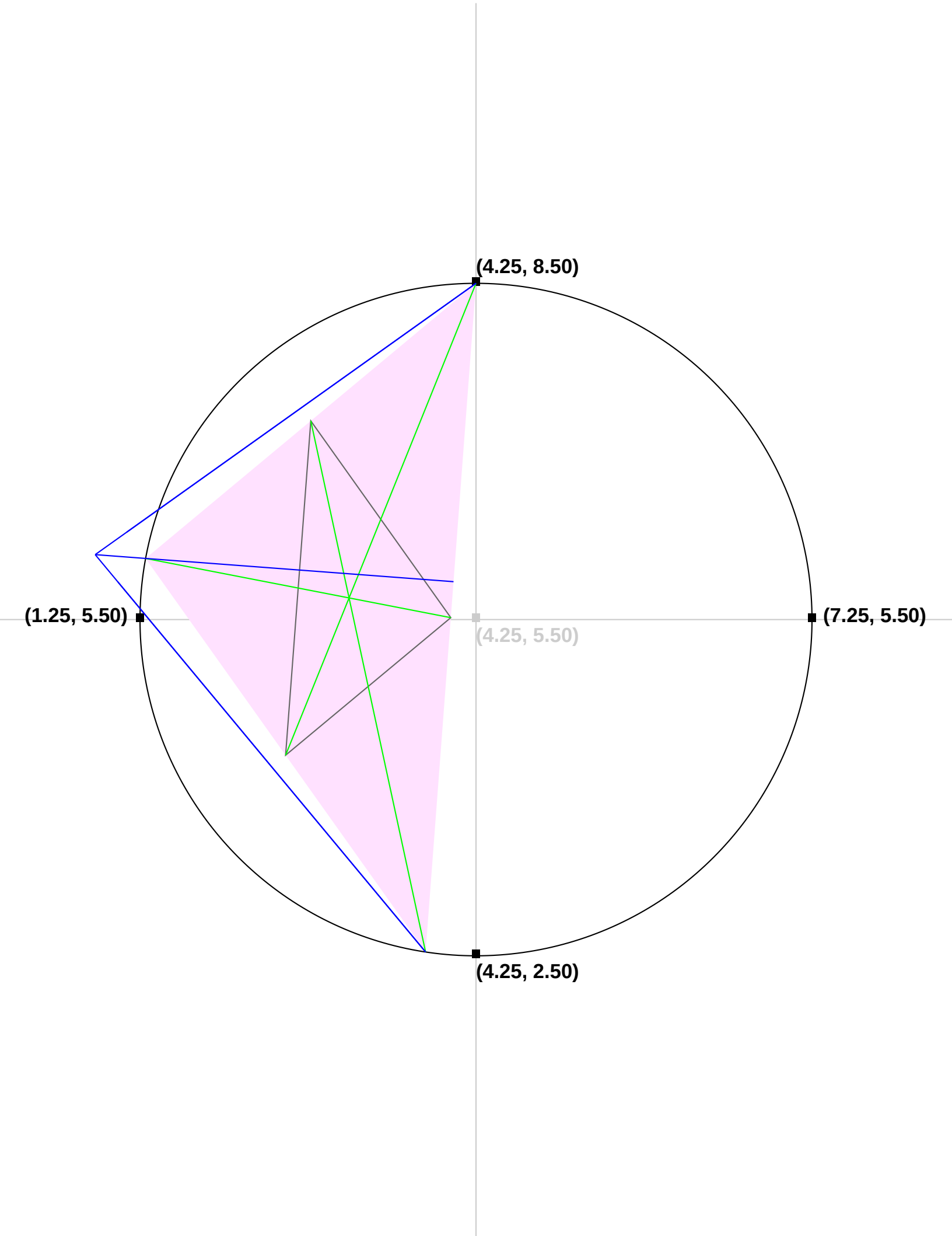
The Euler Line Of A Triangle, by Sharon Jeeyoung Lee

Now, let’s examine the euler line of an obtuse triangles.

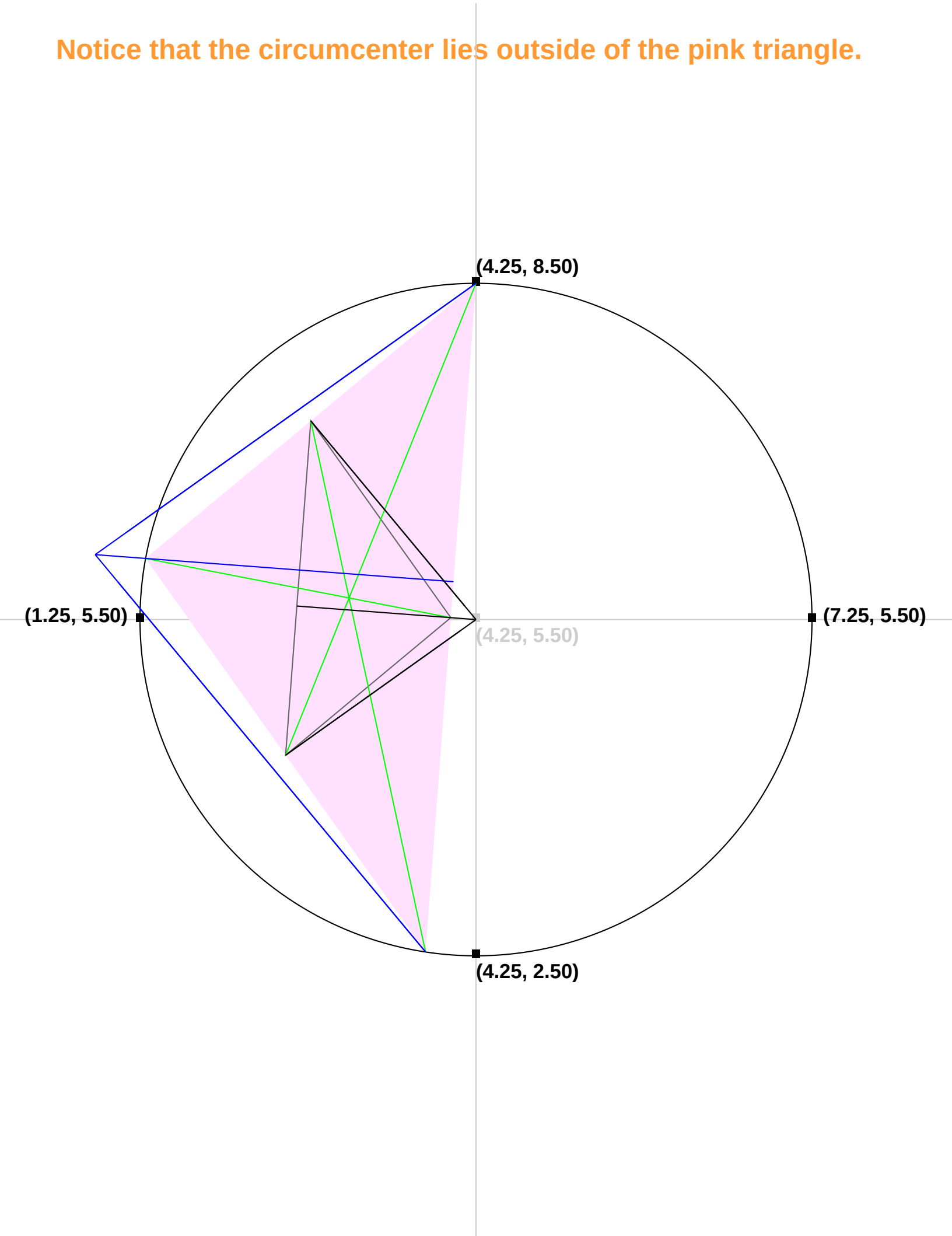


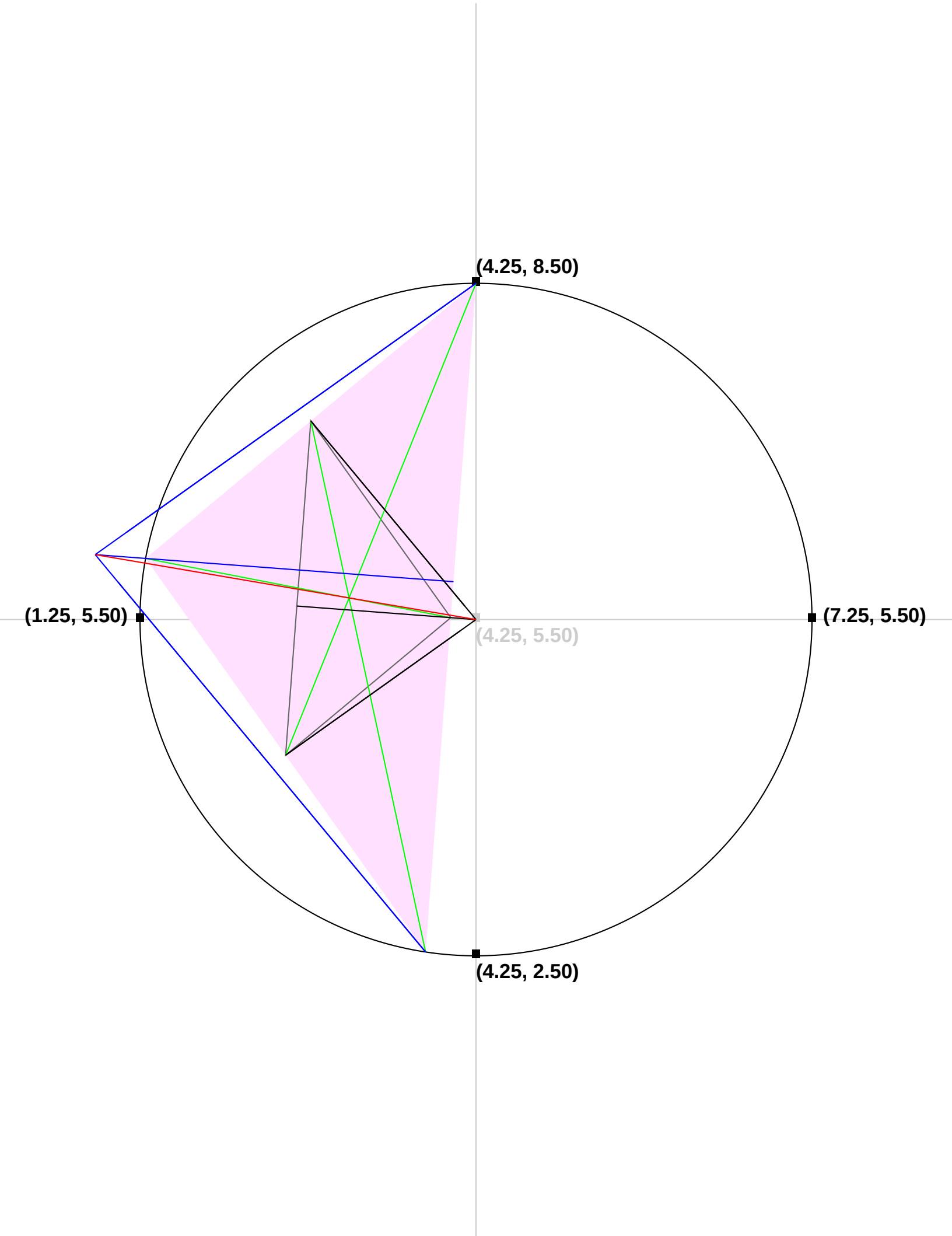

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

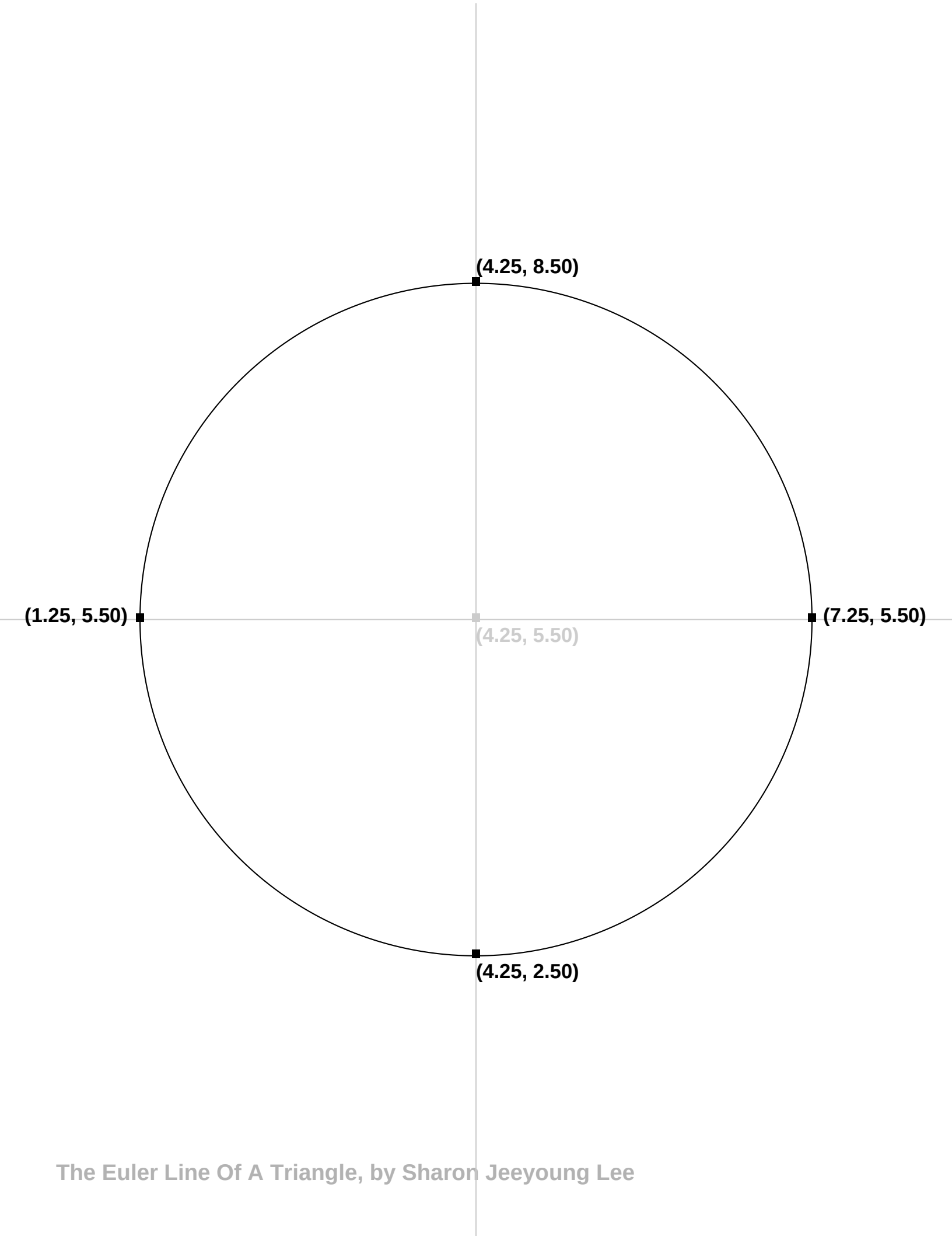

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

Notice that the circumcenter lies outside of the pink triangle.

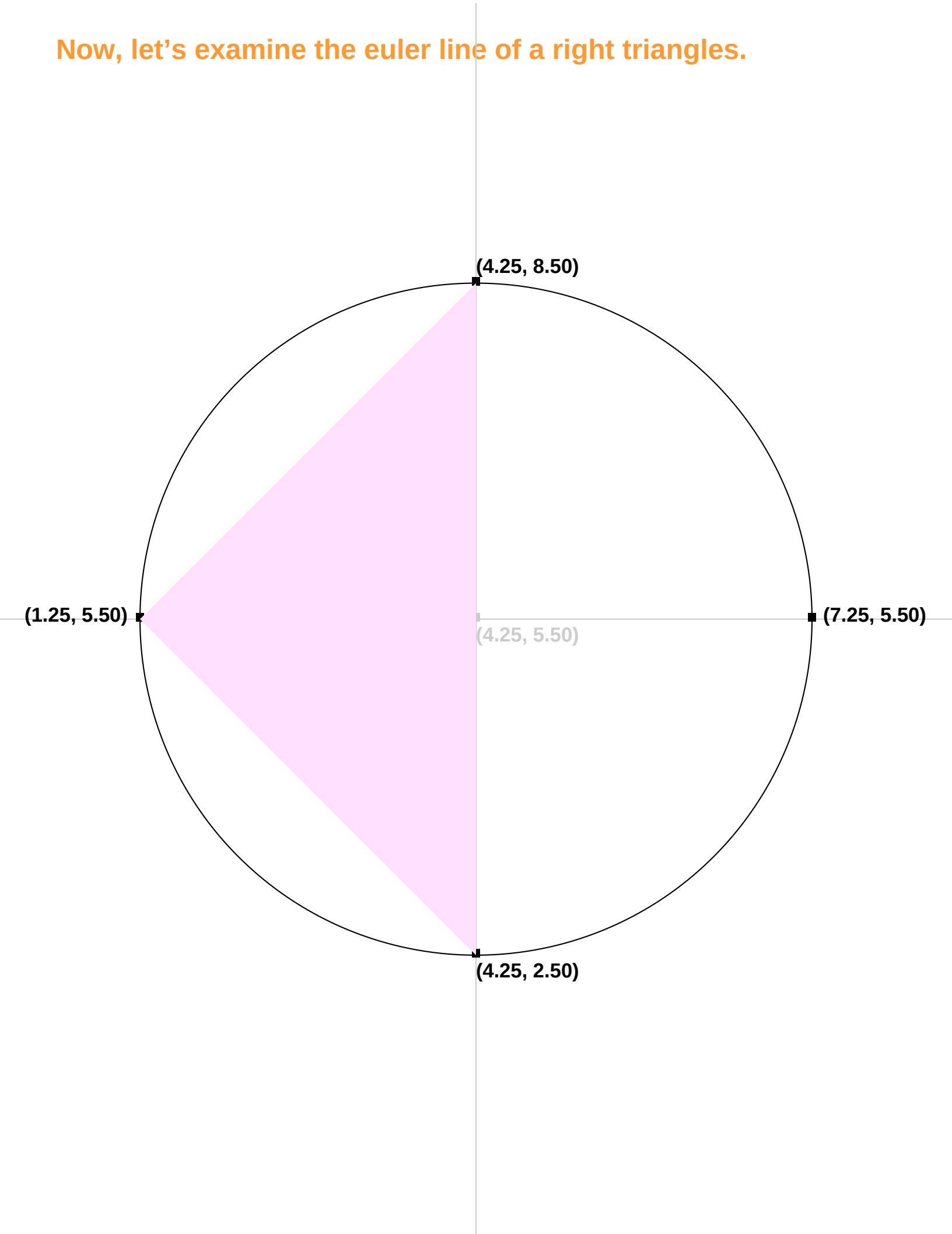


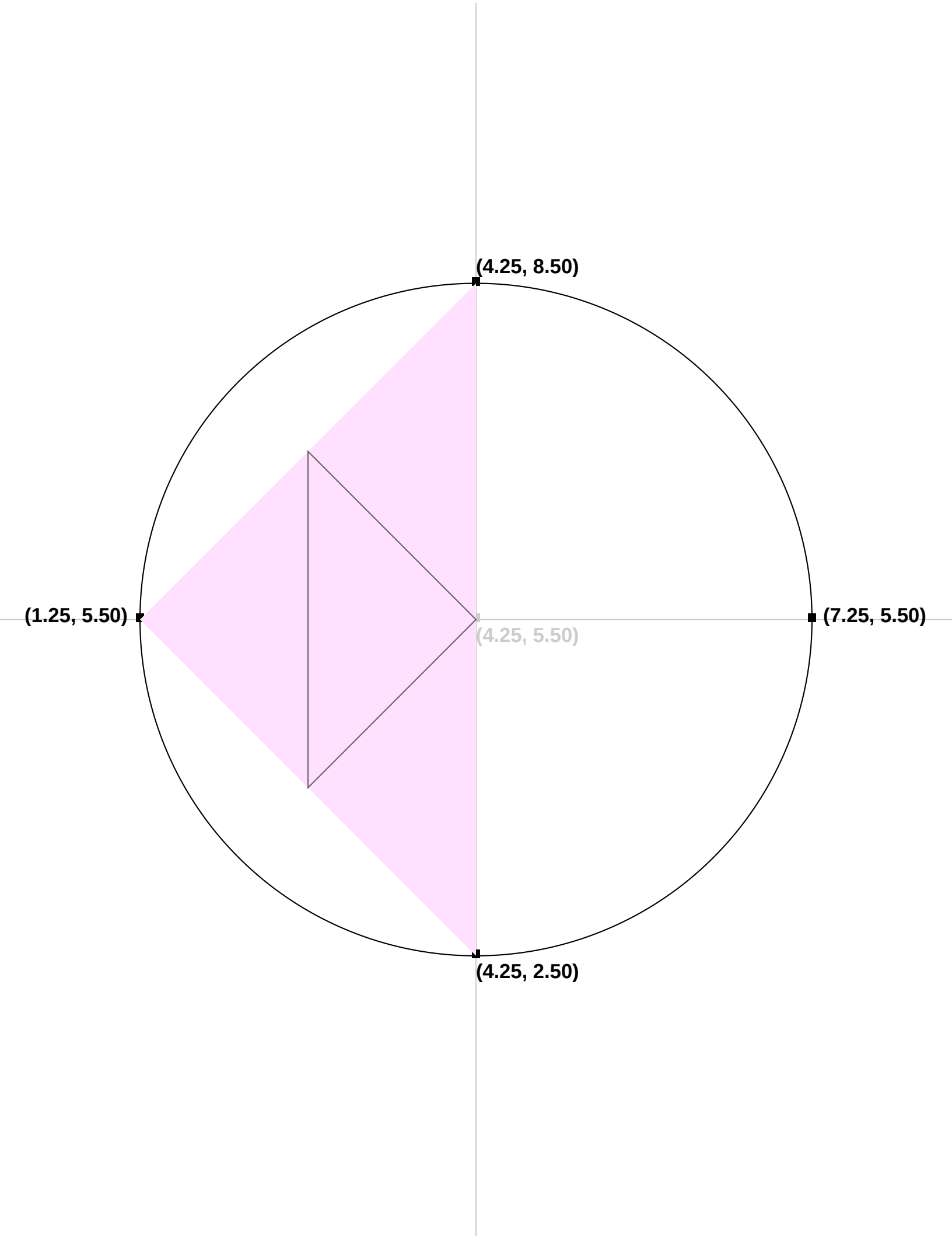

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

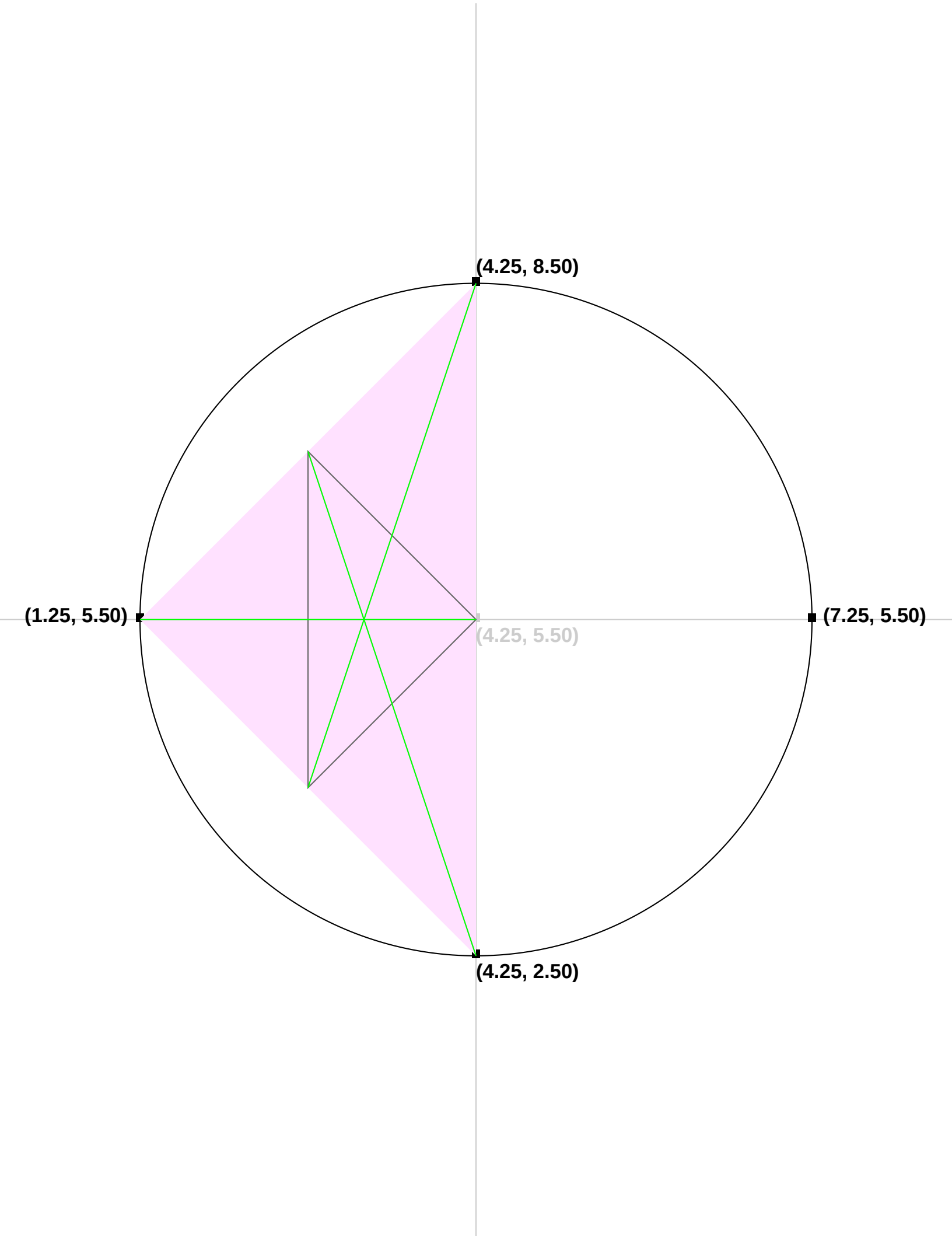


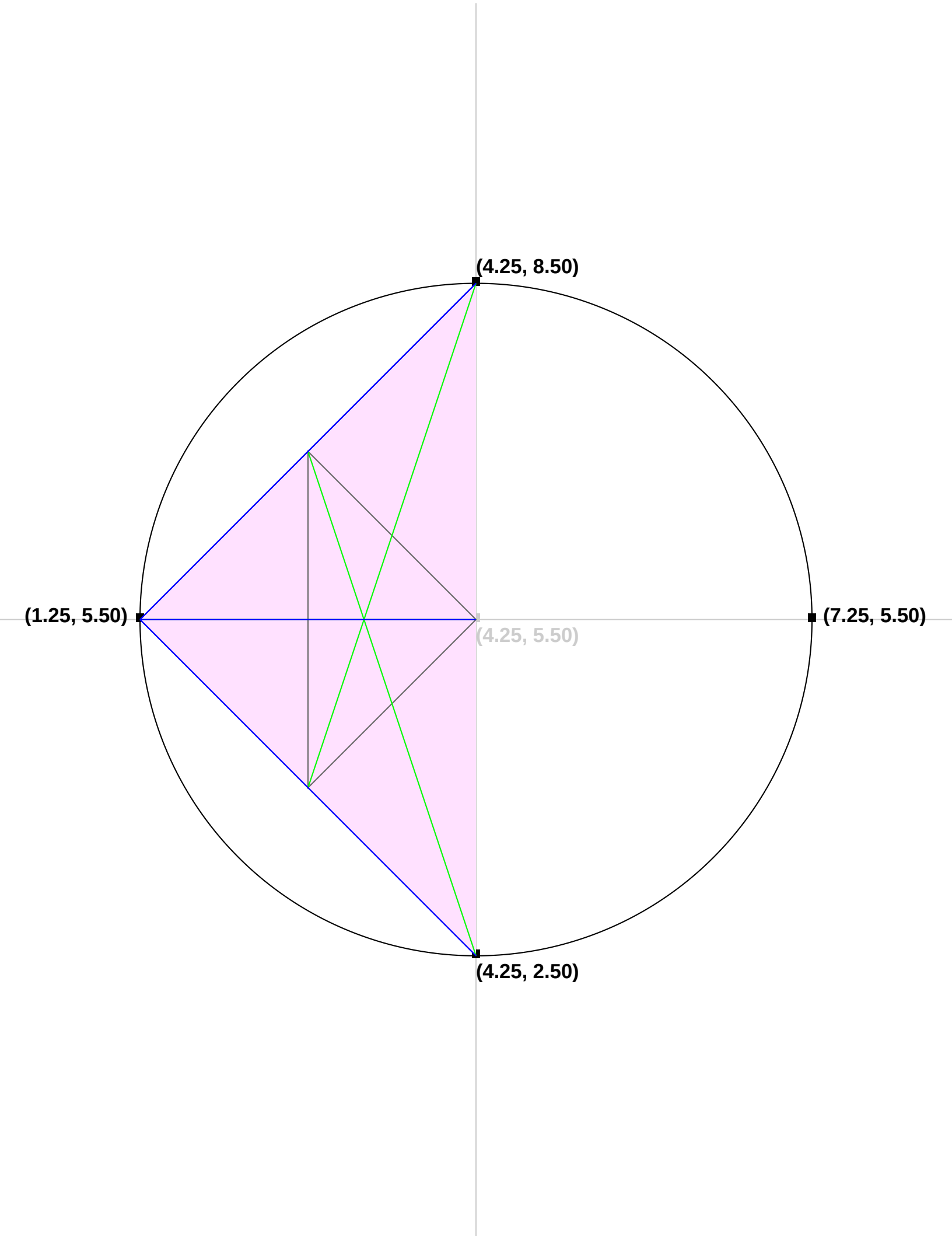
The Euler Line Of A Triangle, by Sharon Jeeyoung Lee

Now, let’s examine the euler line of a right triangles.

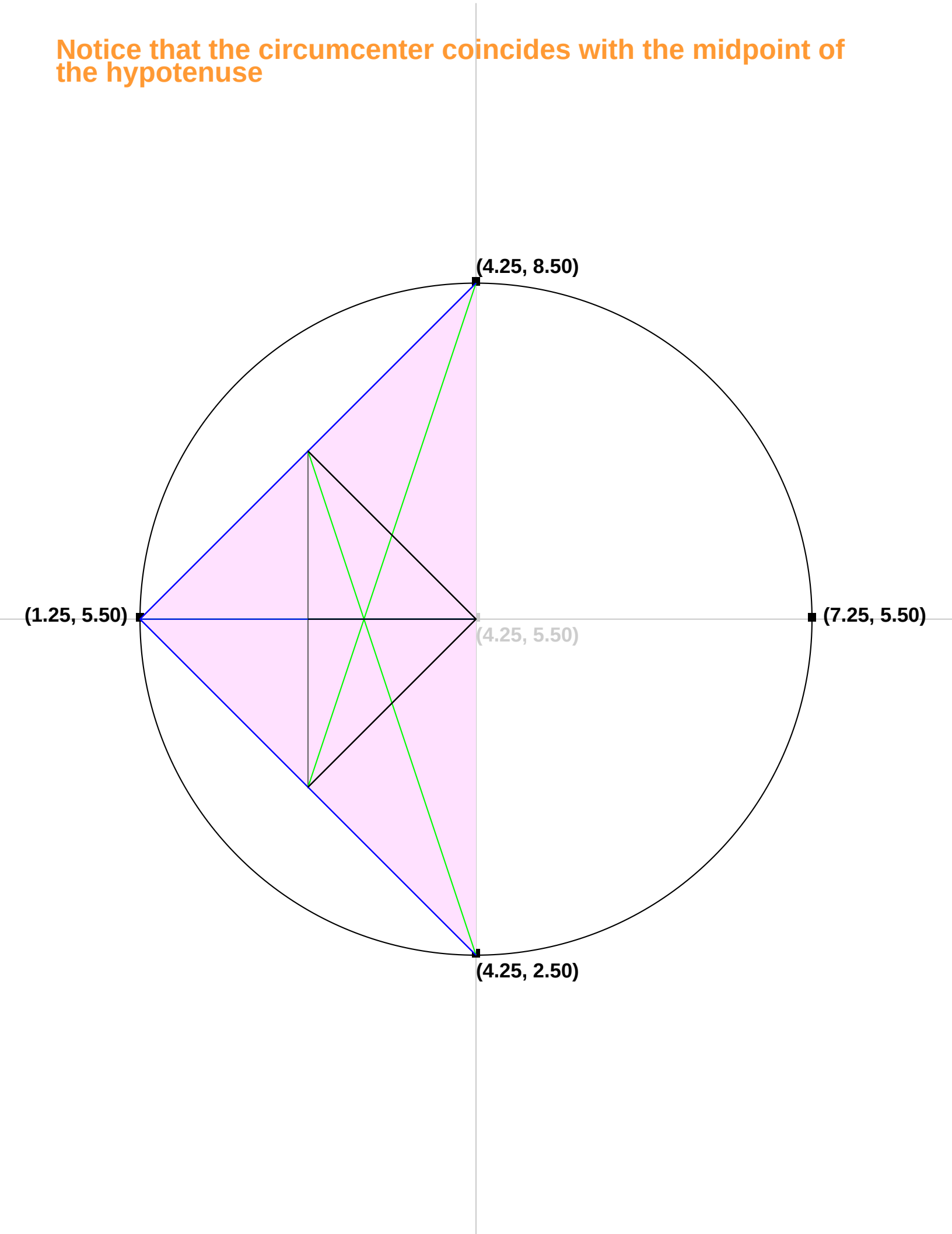


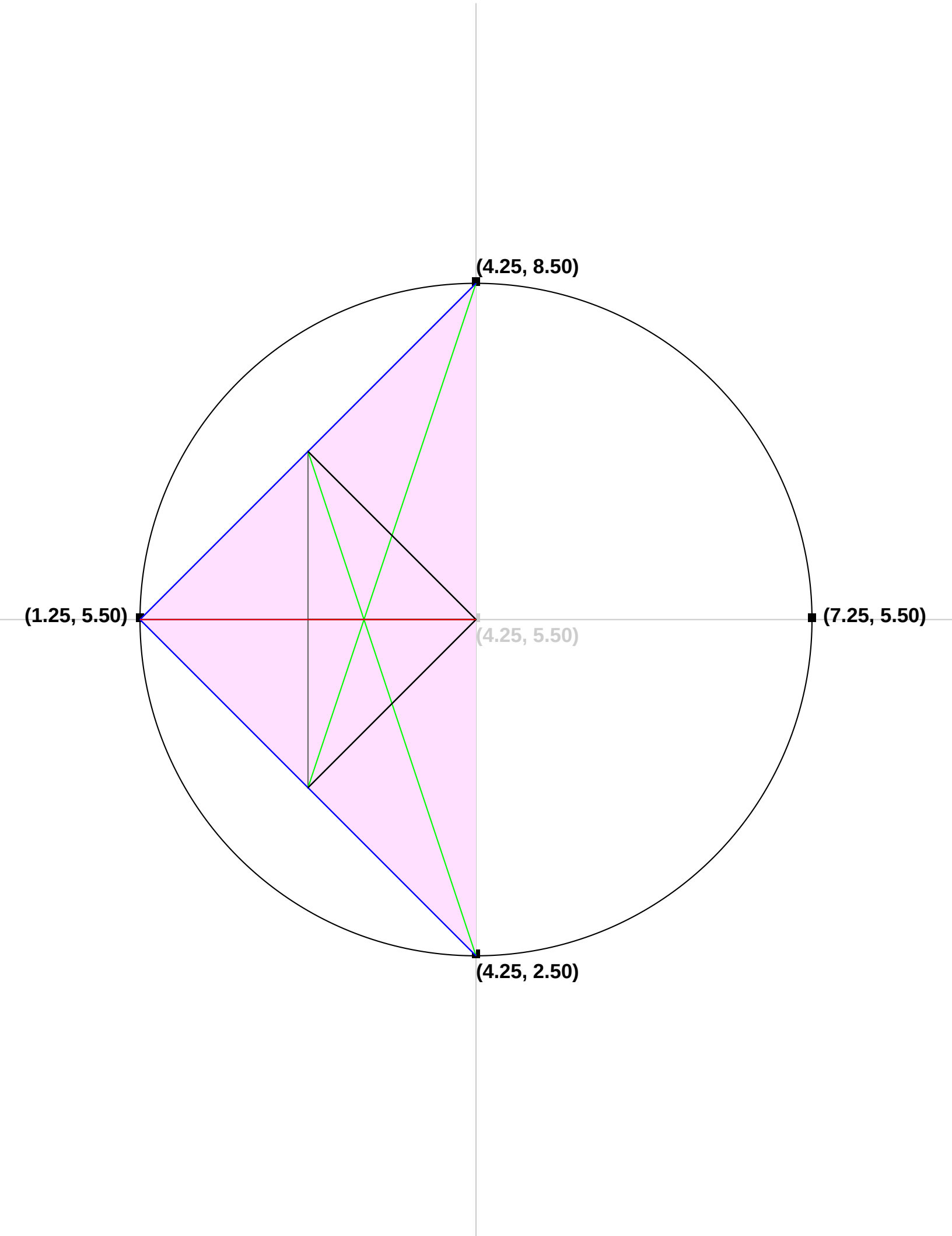

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

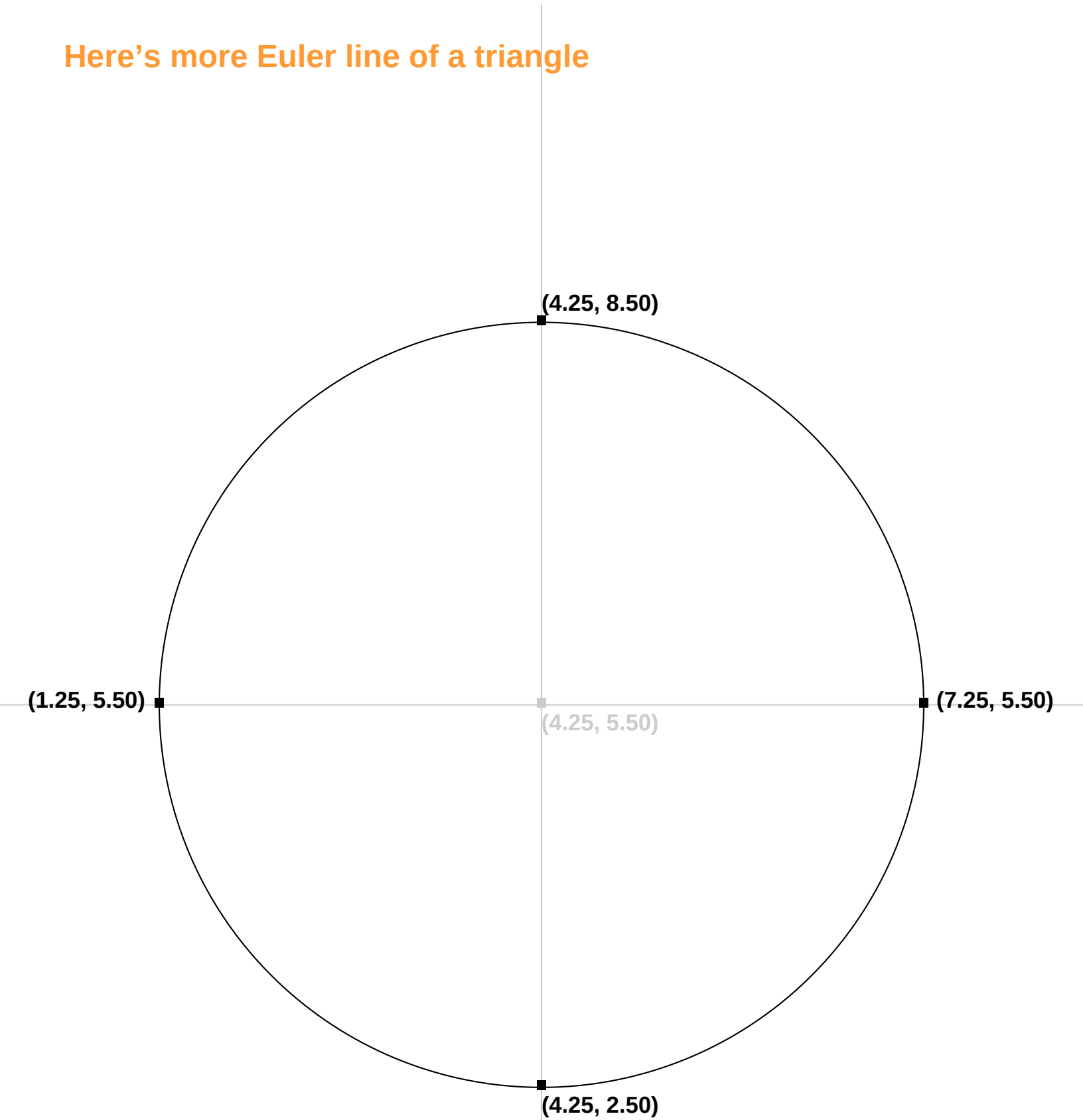

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

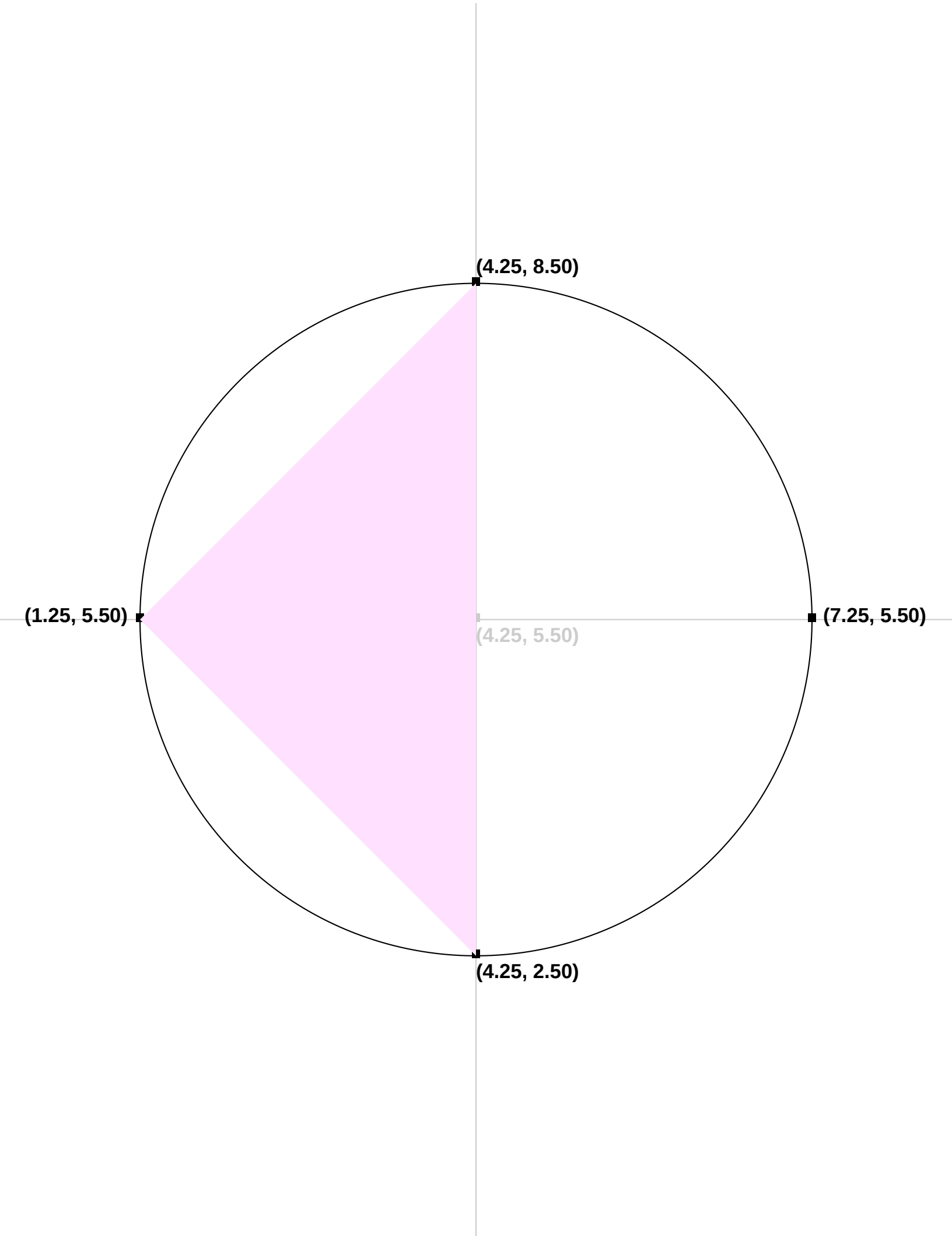
Notice that the circumcenter coincides with the midpoint of the hypotenuse

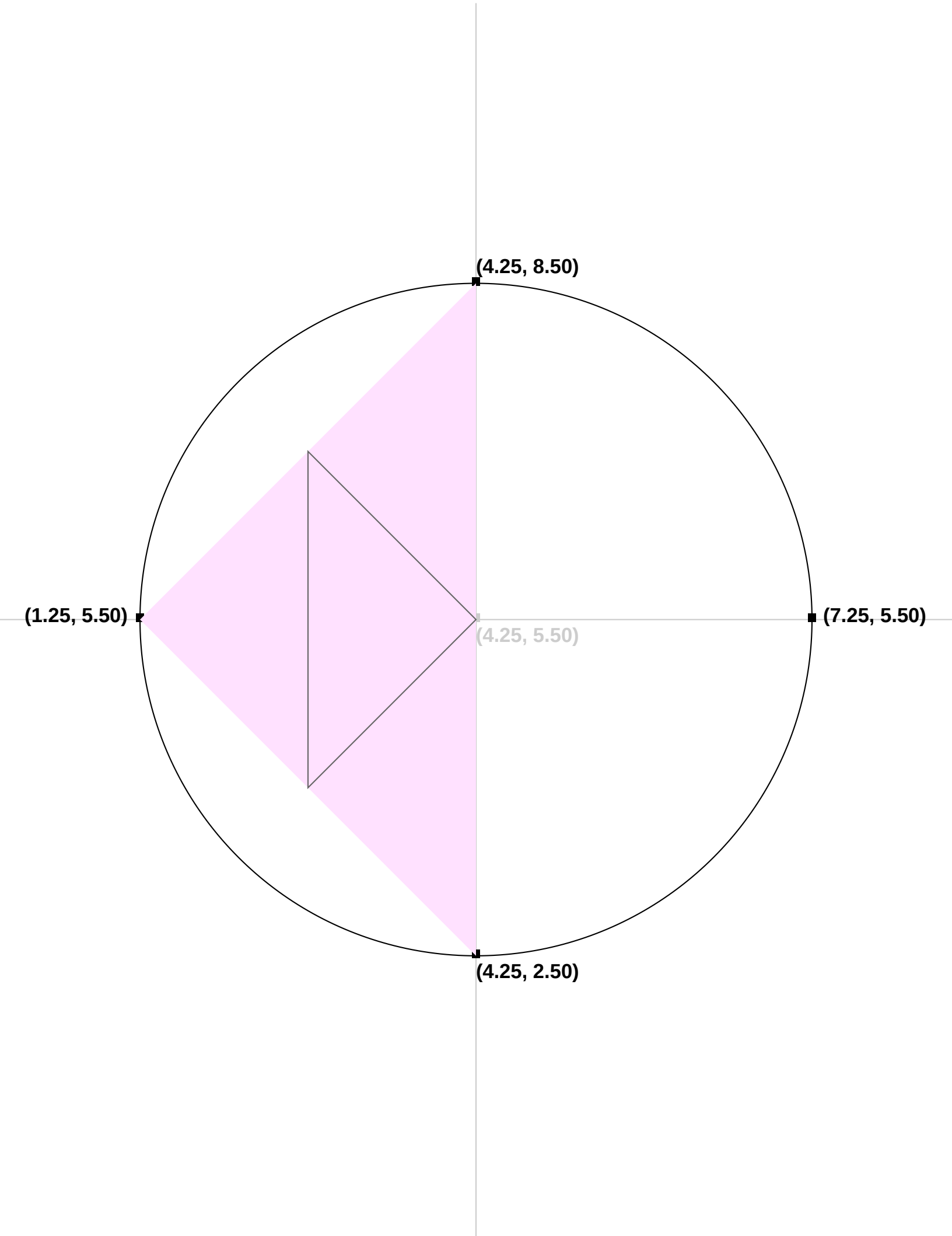


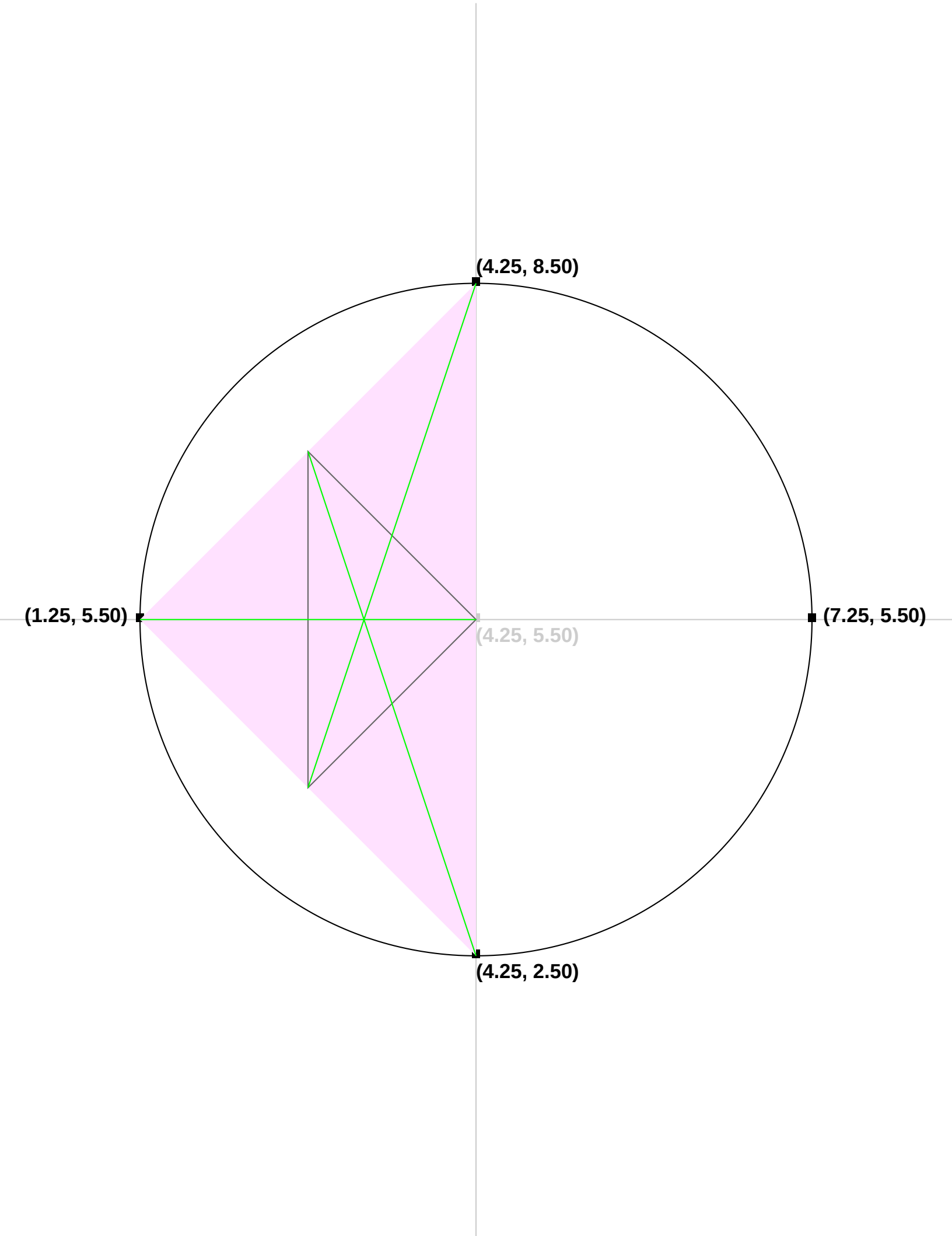

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

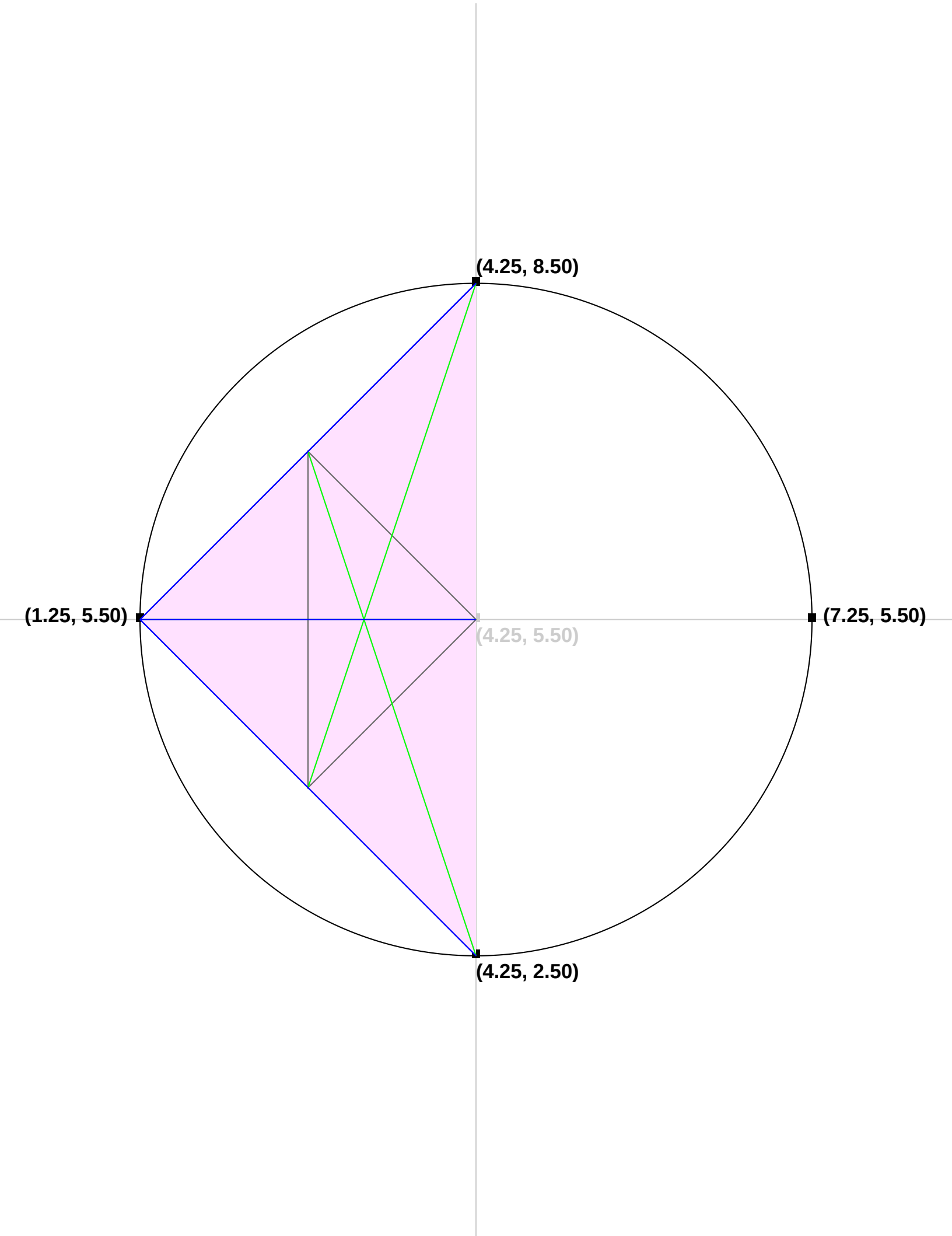
Here’s more Euler line of a triangle

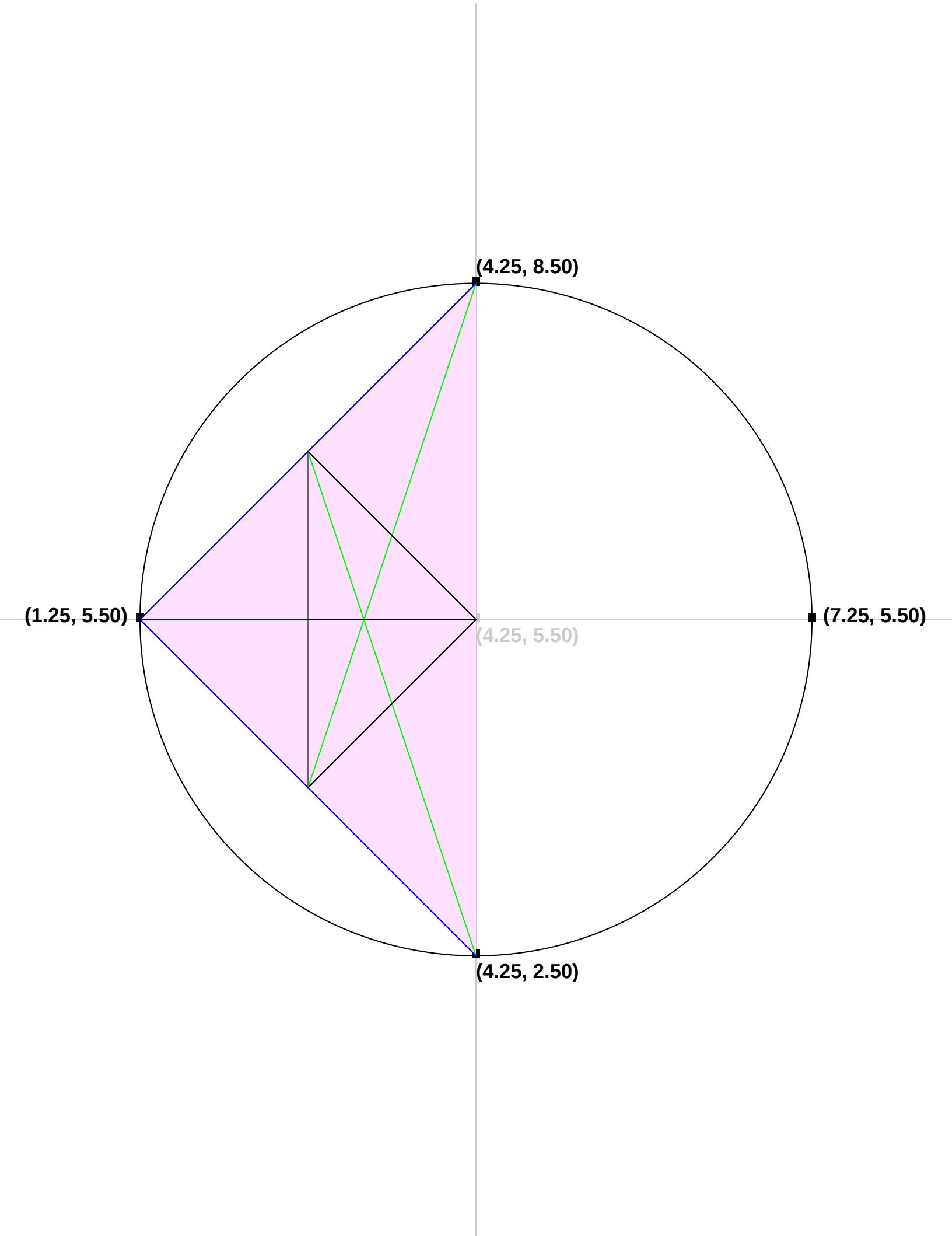


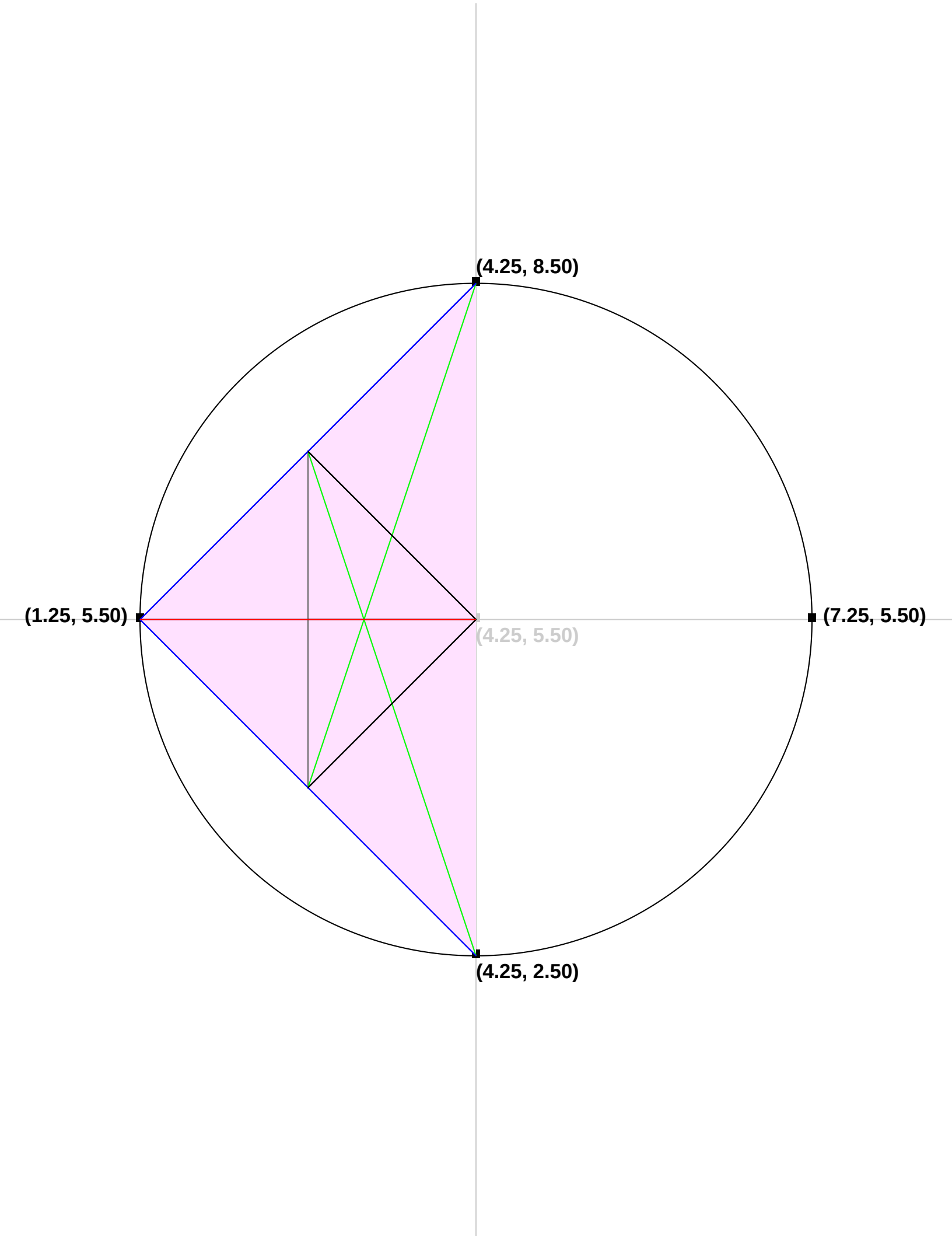

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

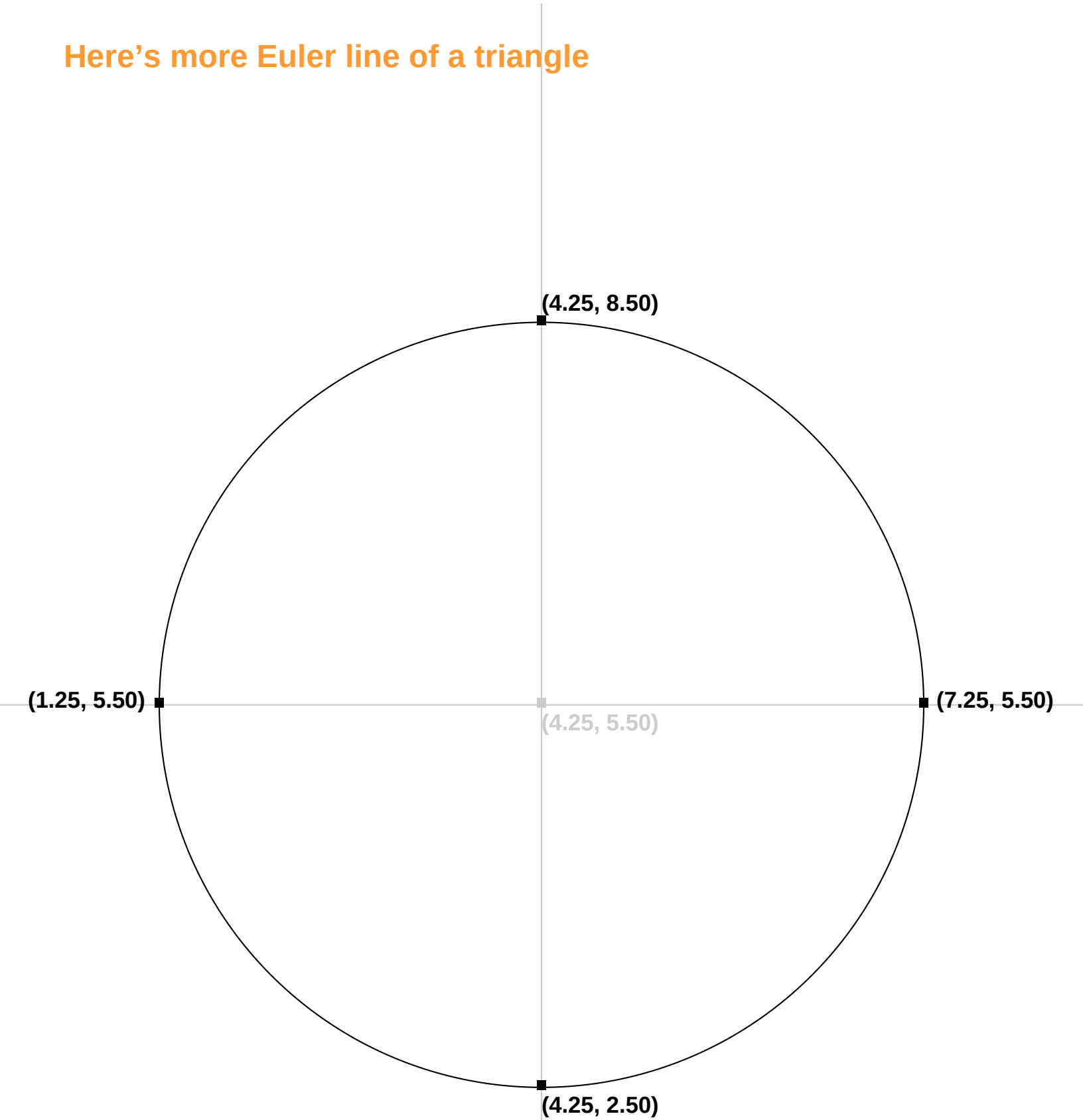

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

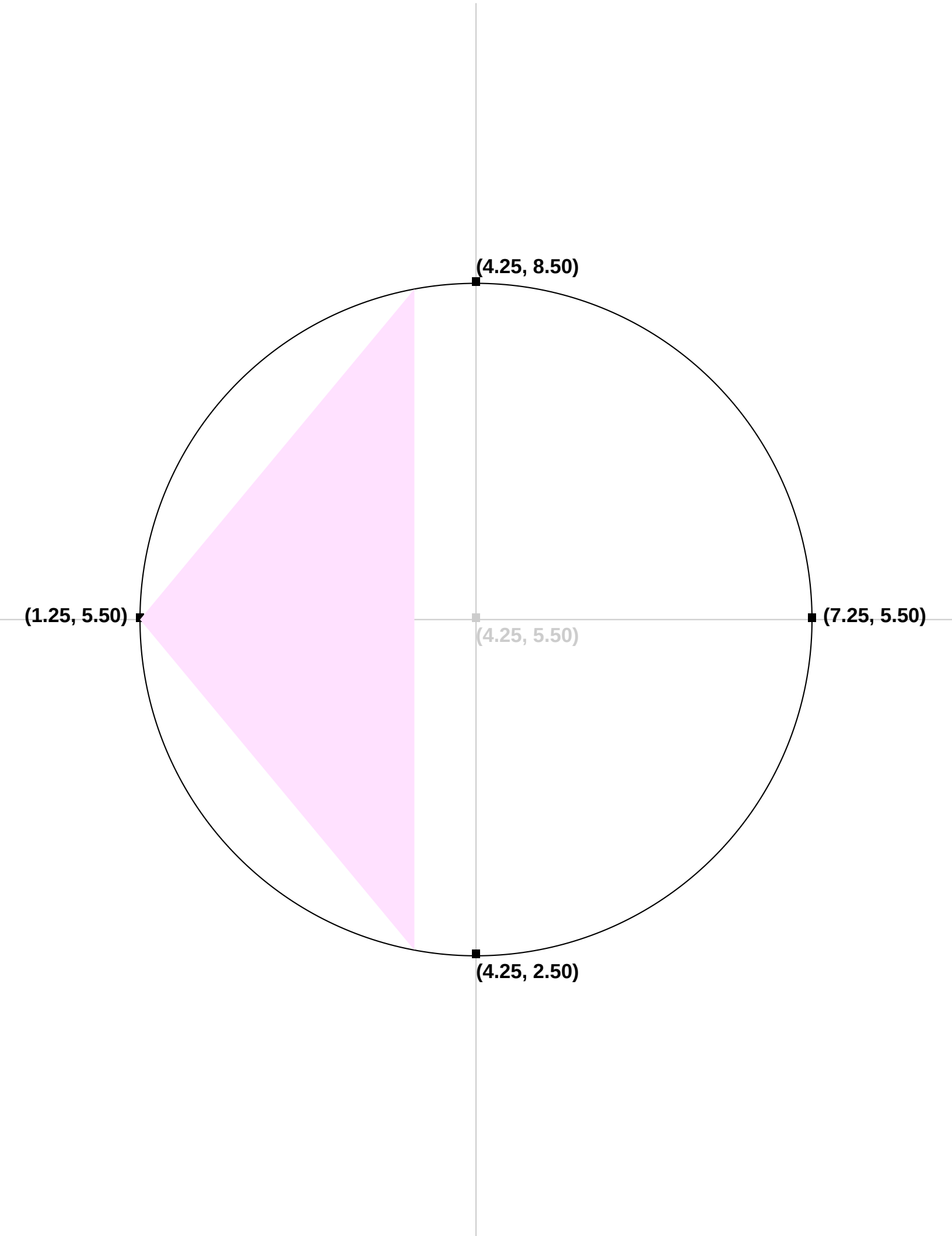

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

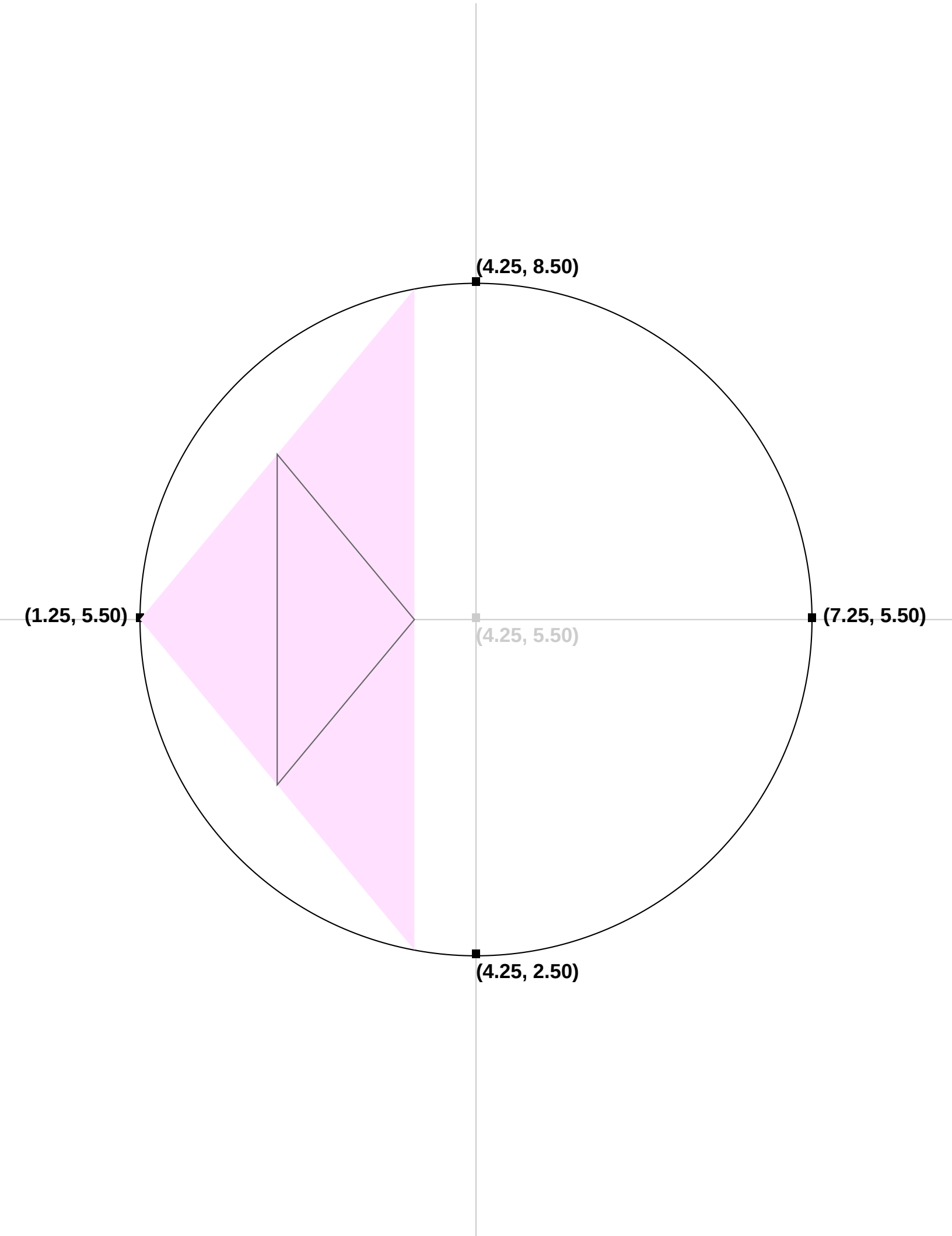

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

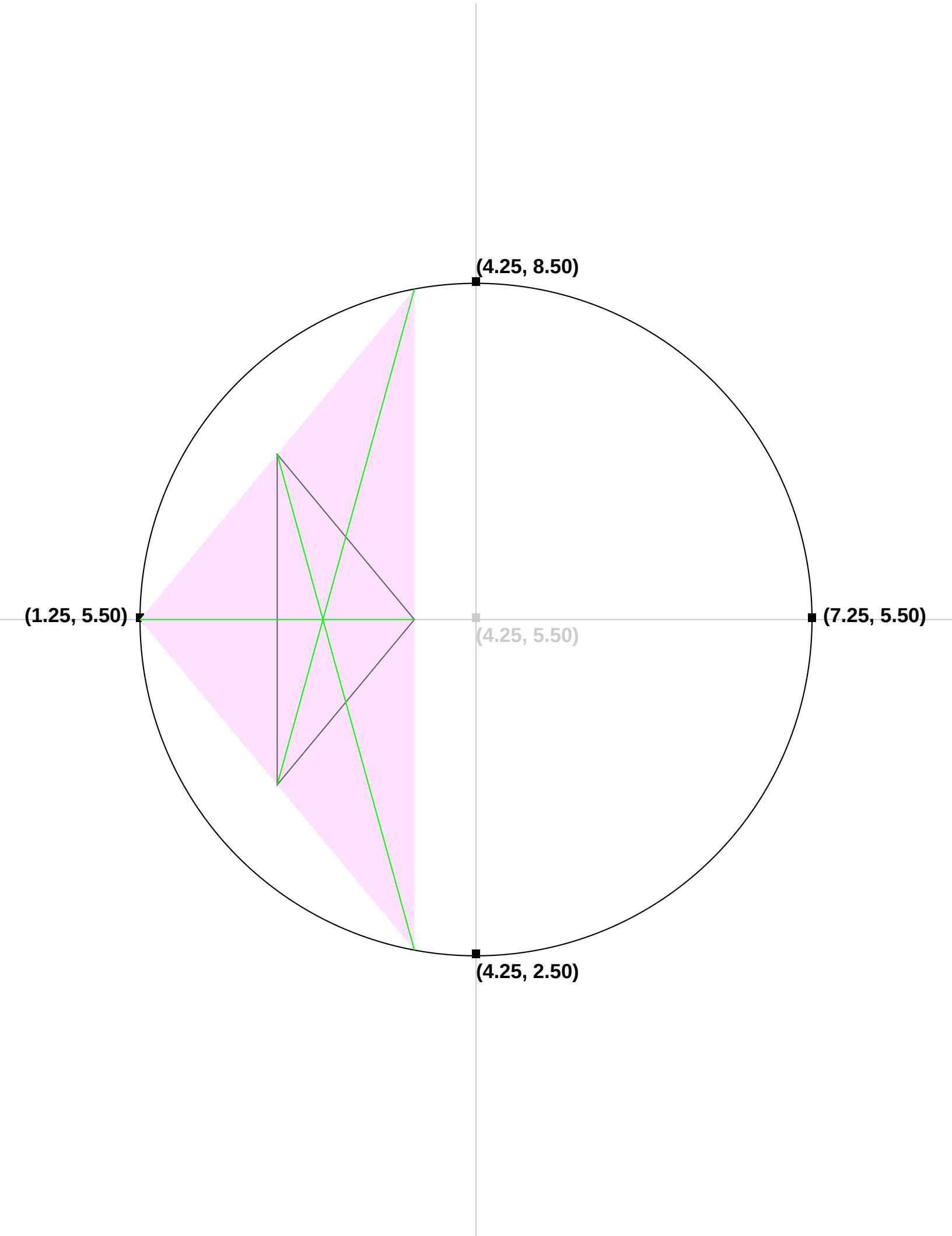

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

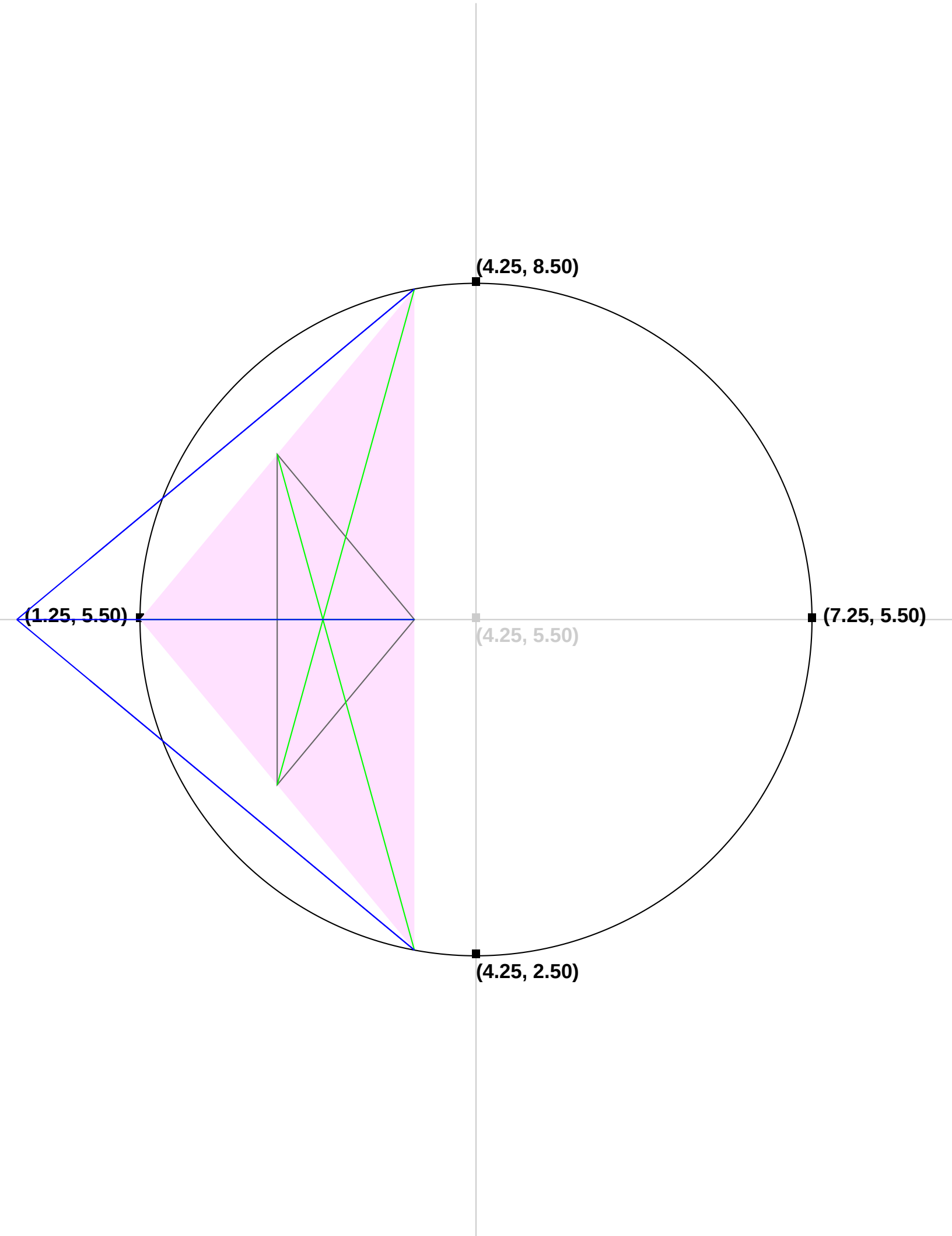
Here’s more Euler line of a triangle

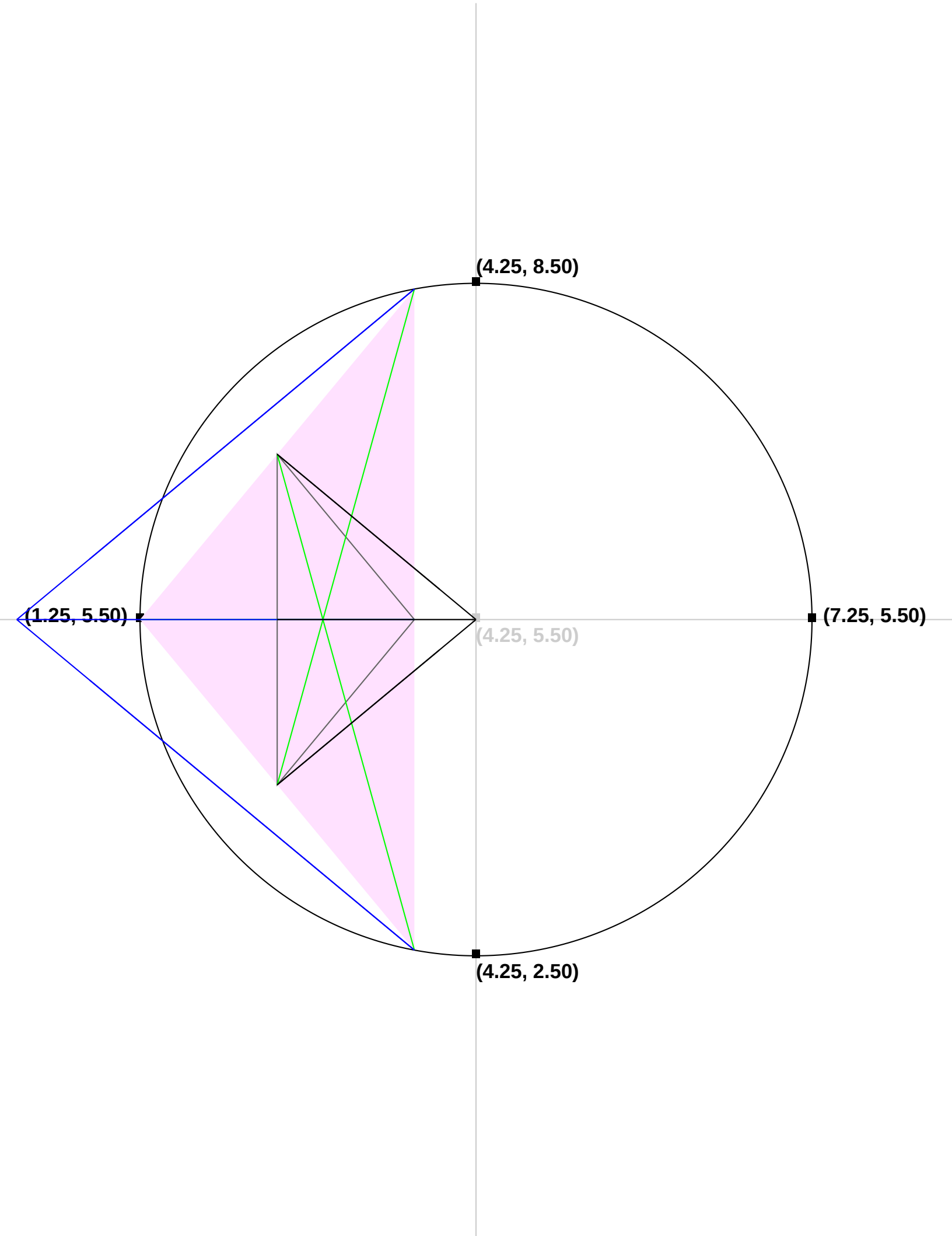


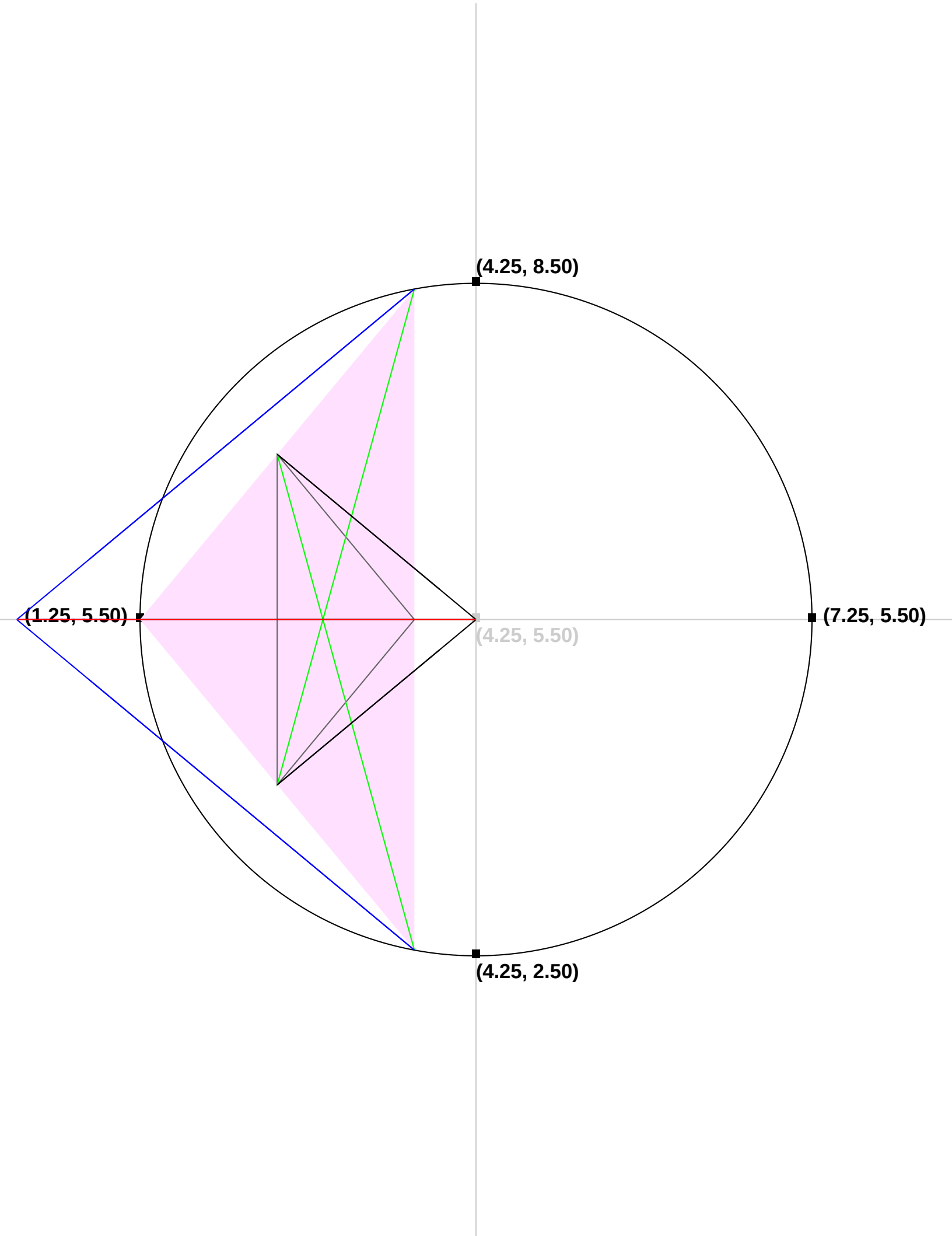

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

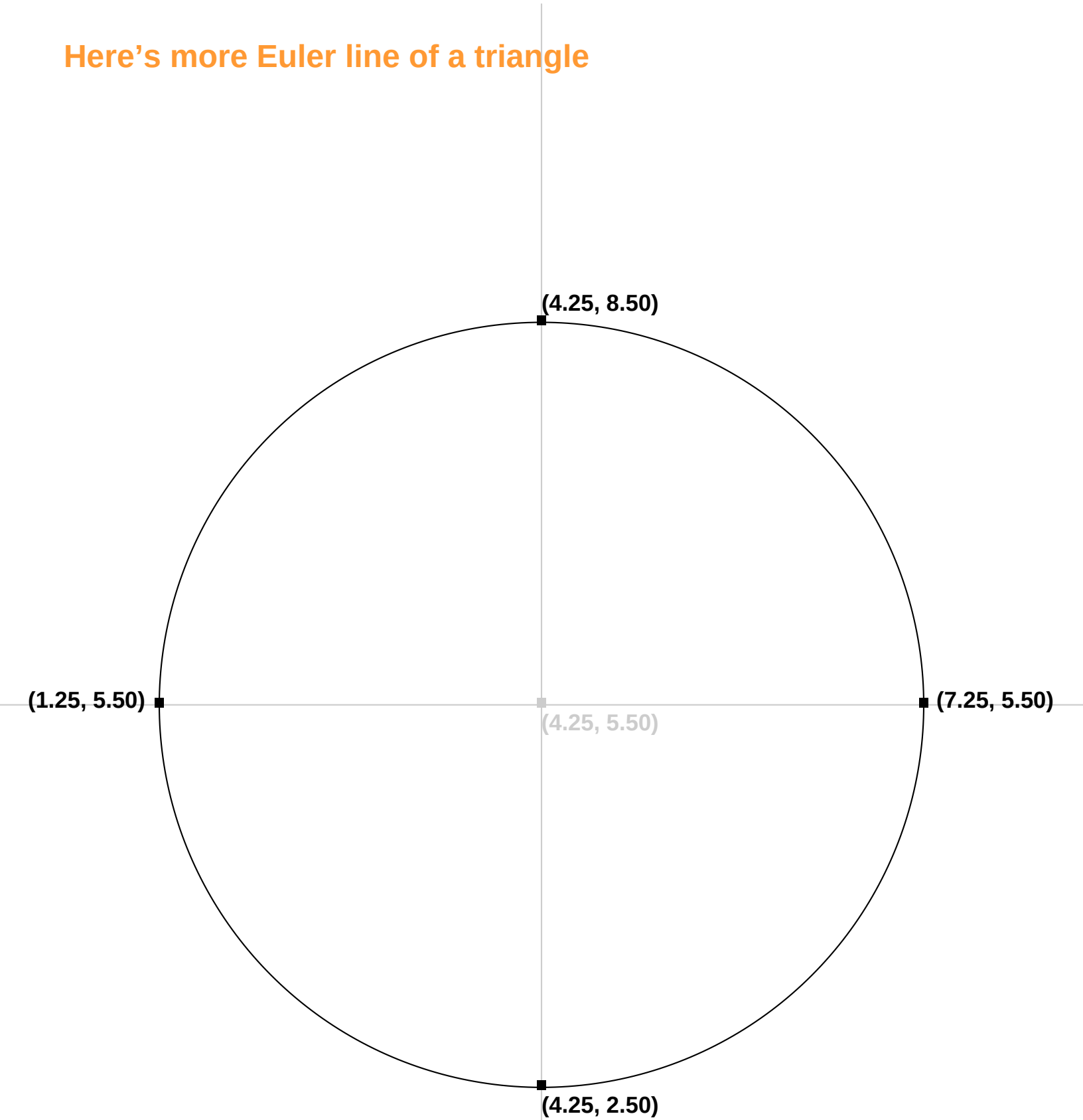

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

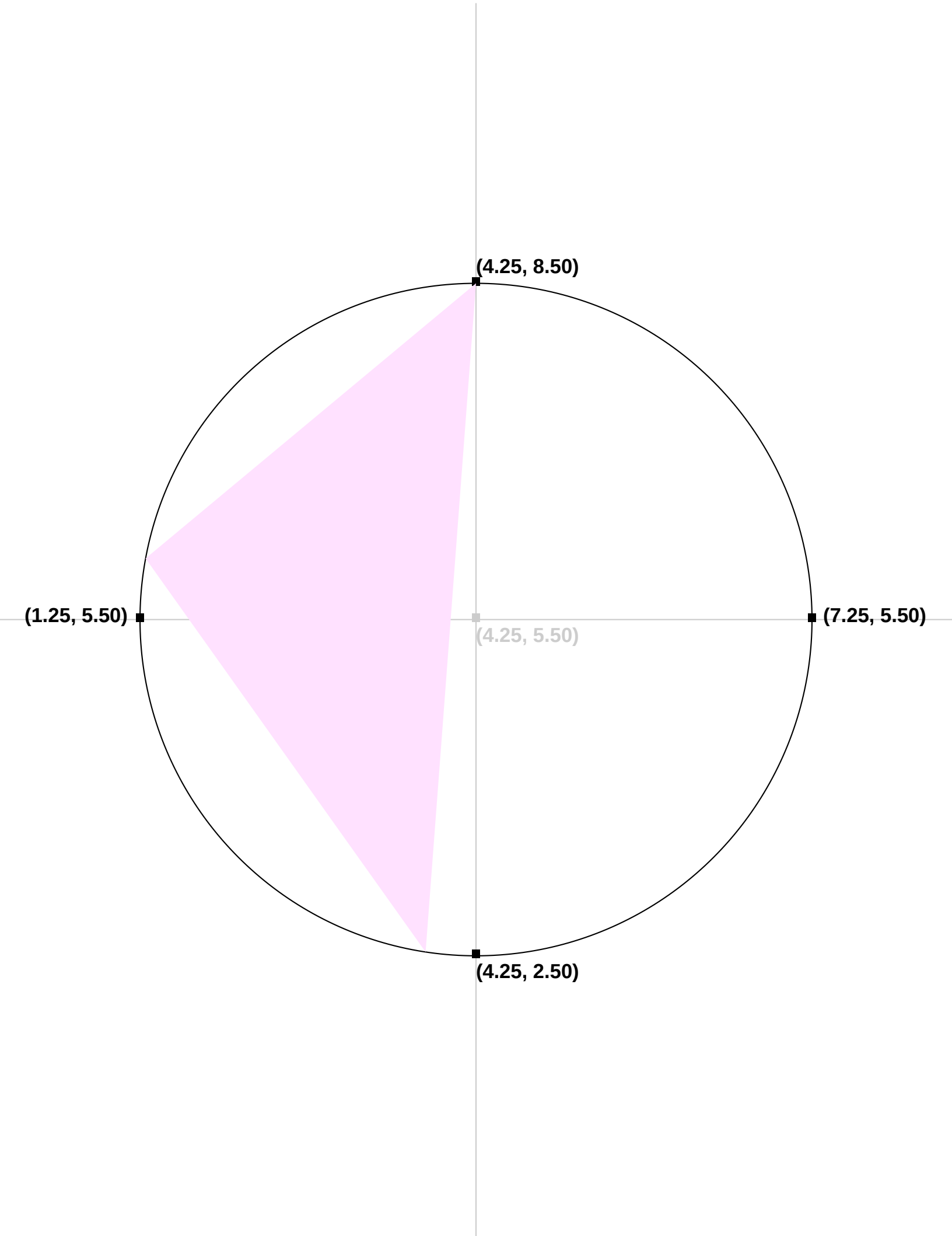

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

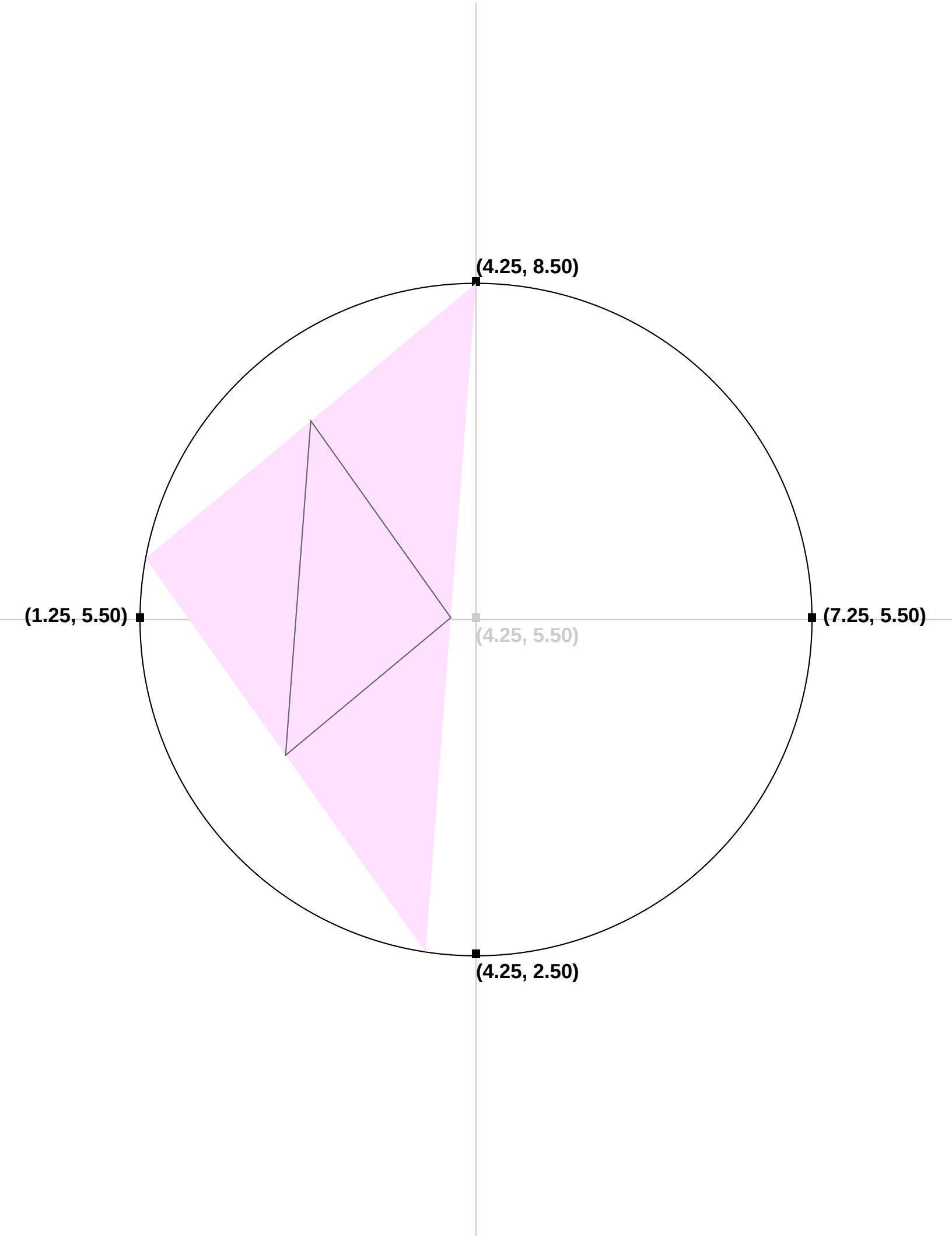

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

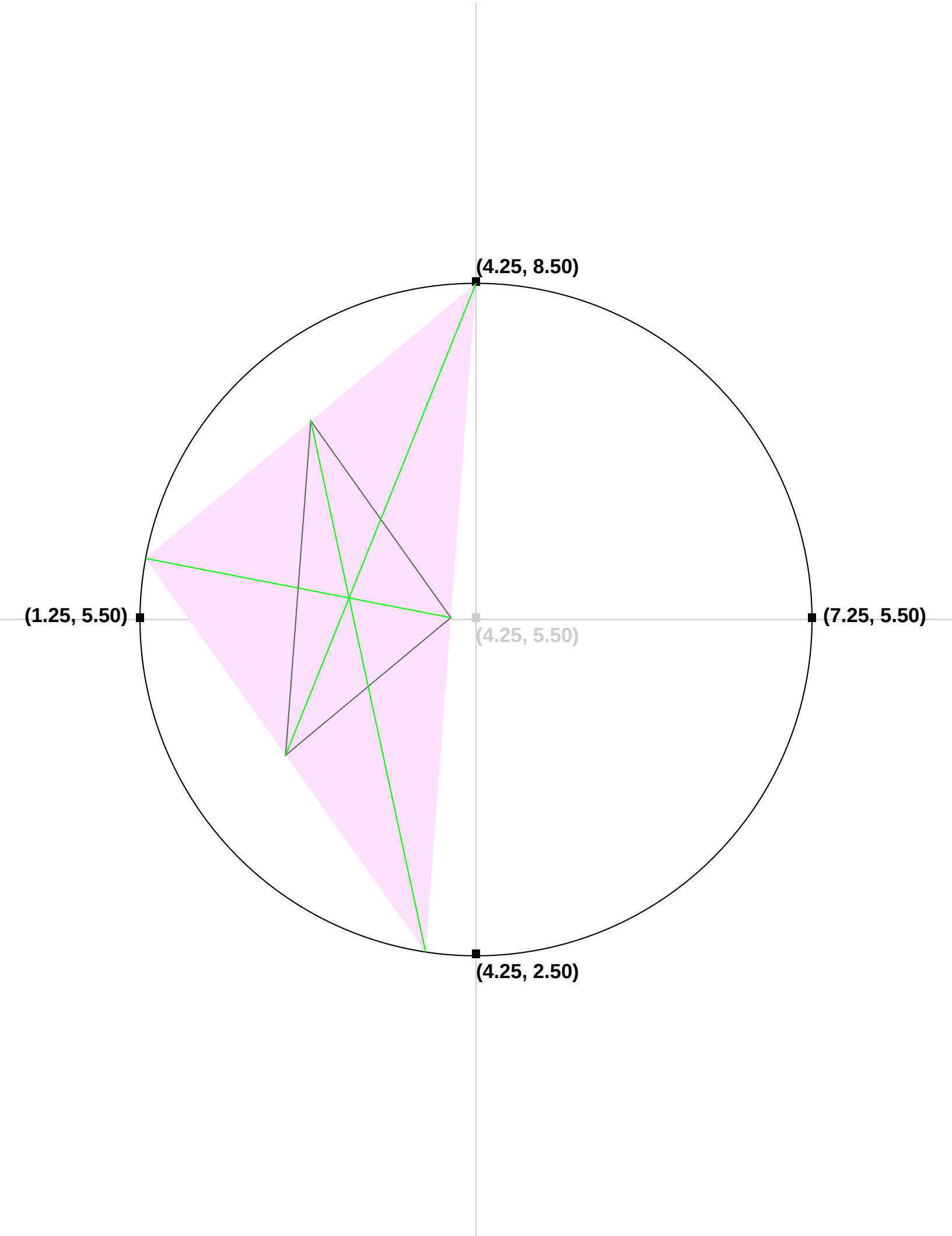

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

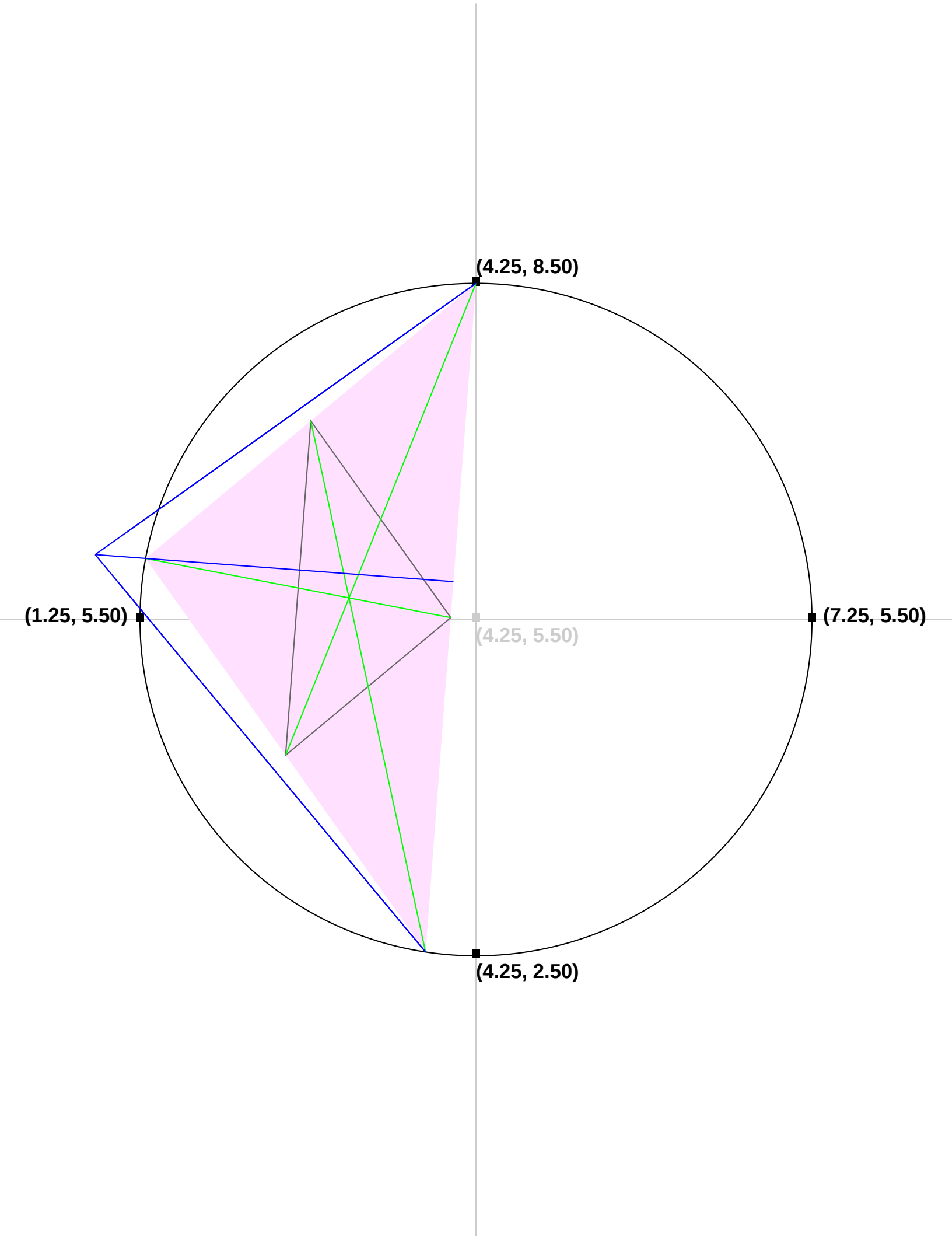
Here’s more Euler line of a triangle

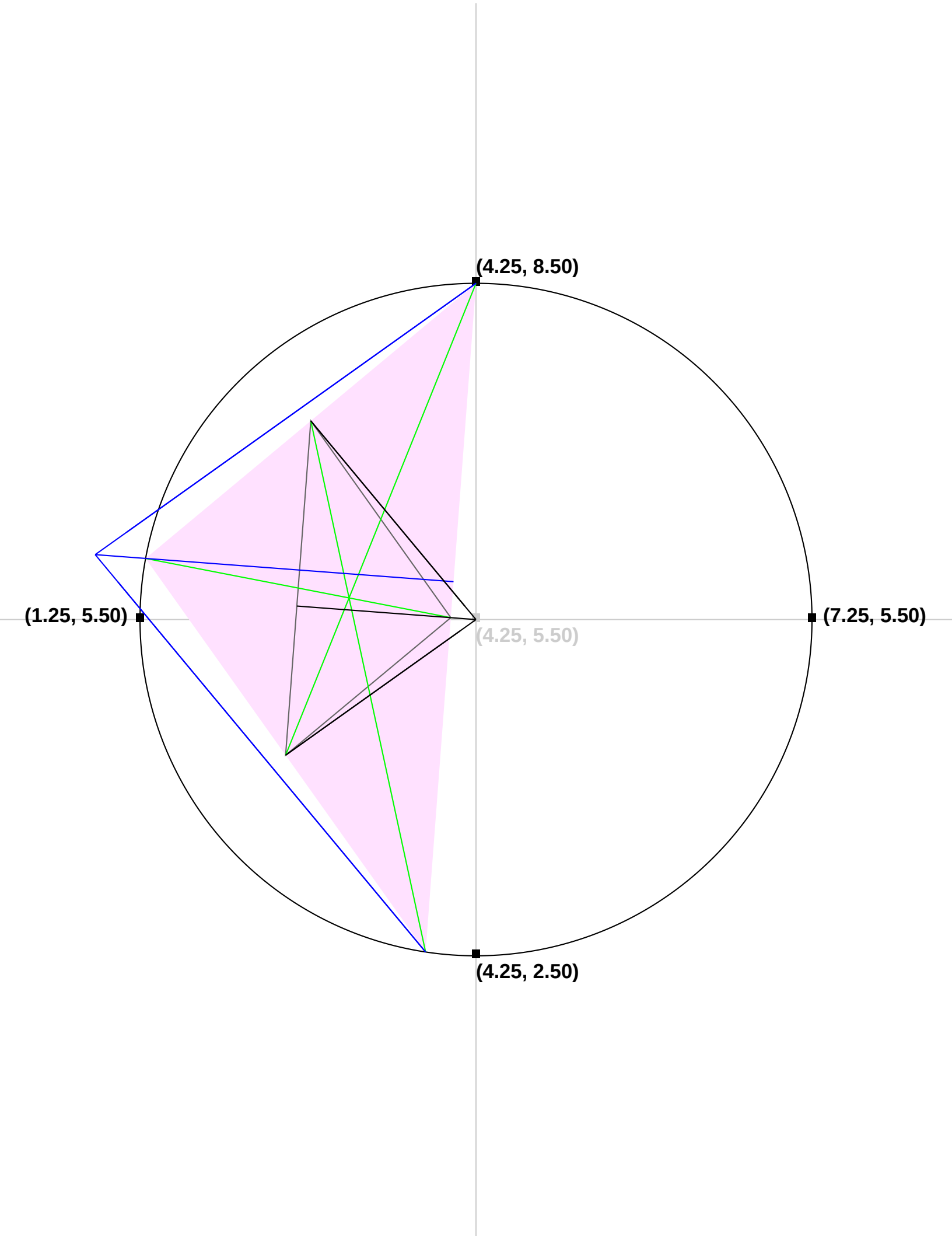


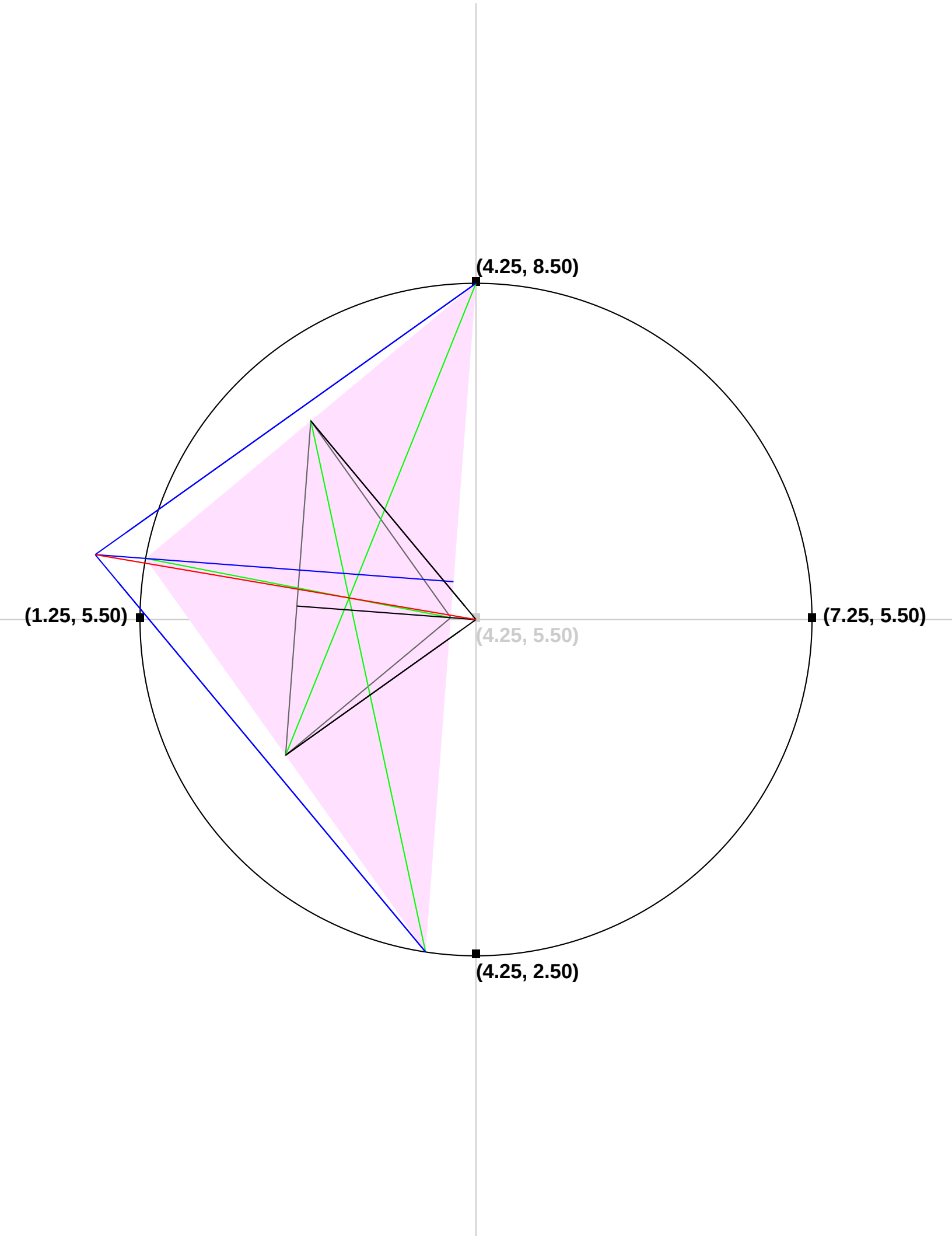

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

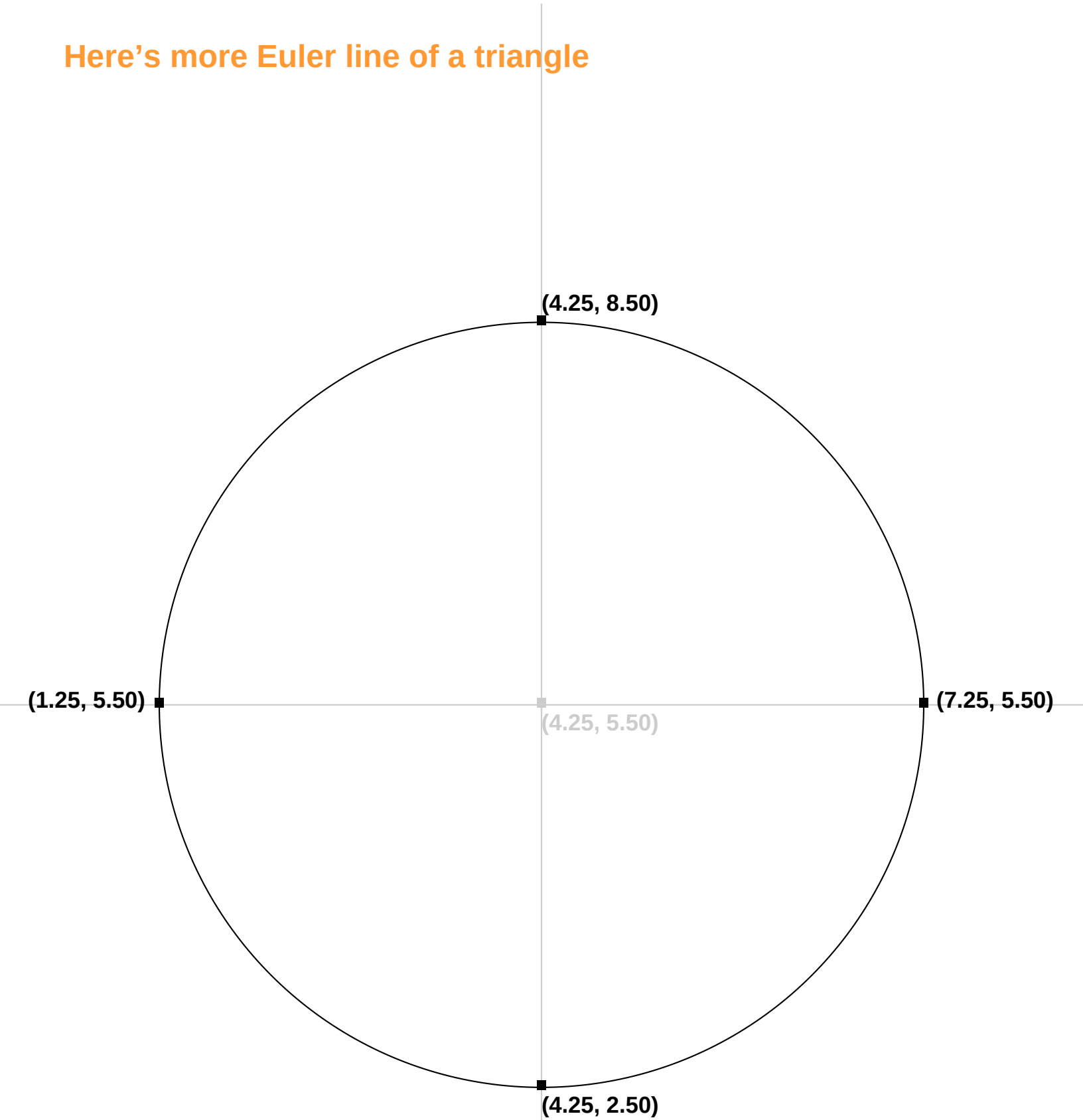

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

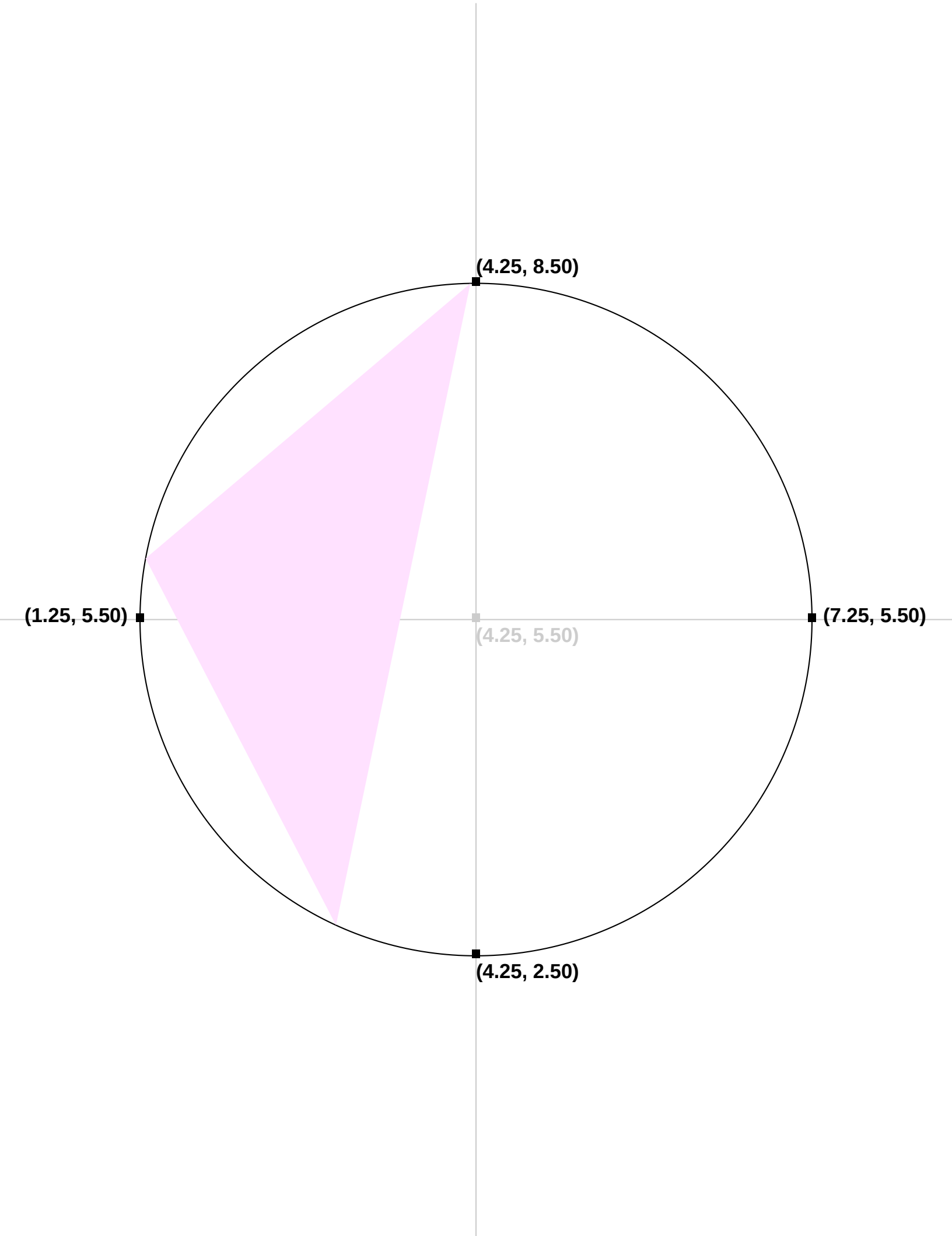

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

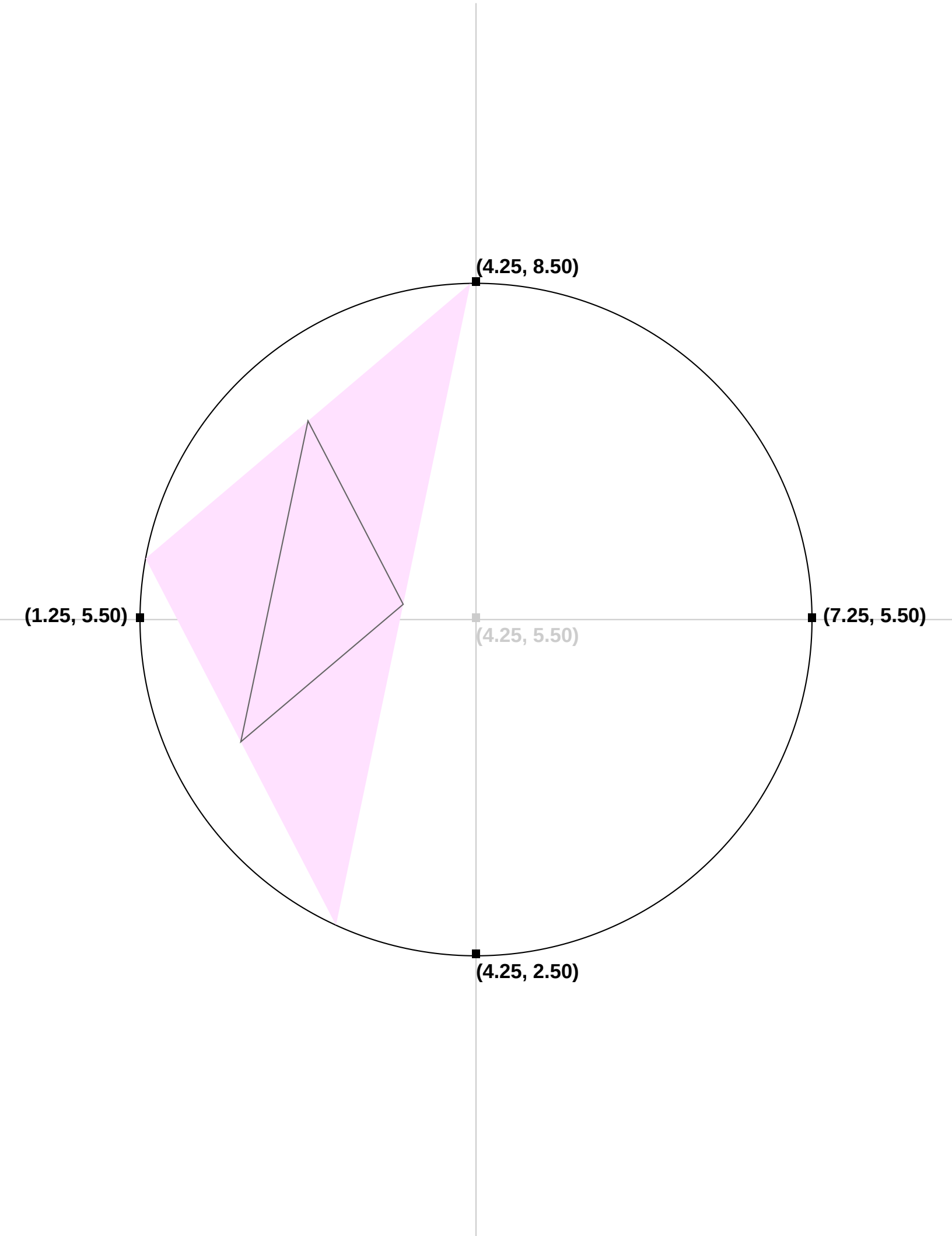

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

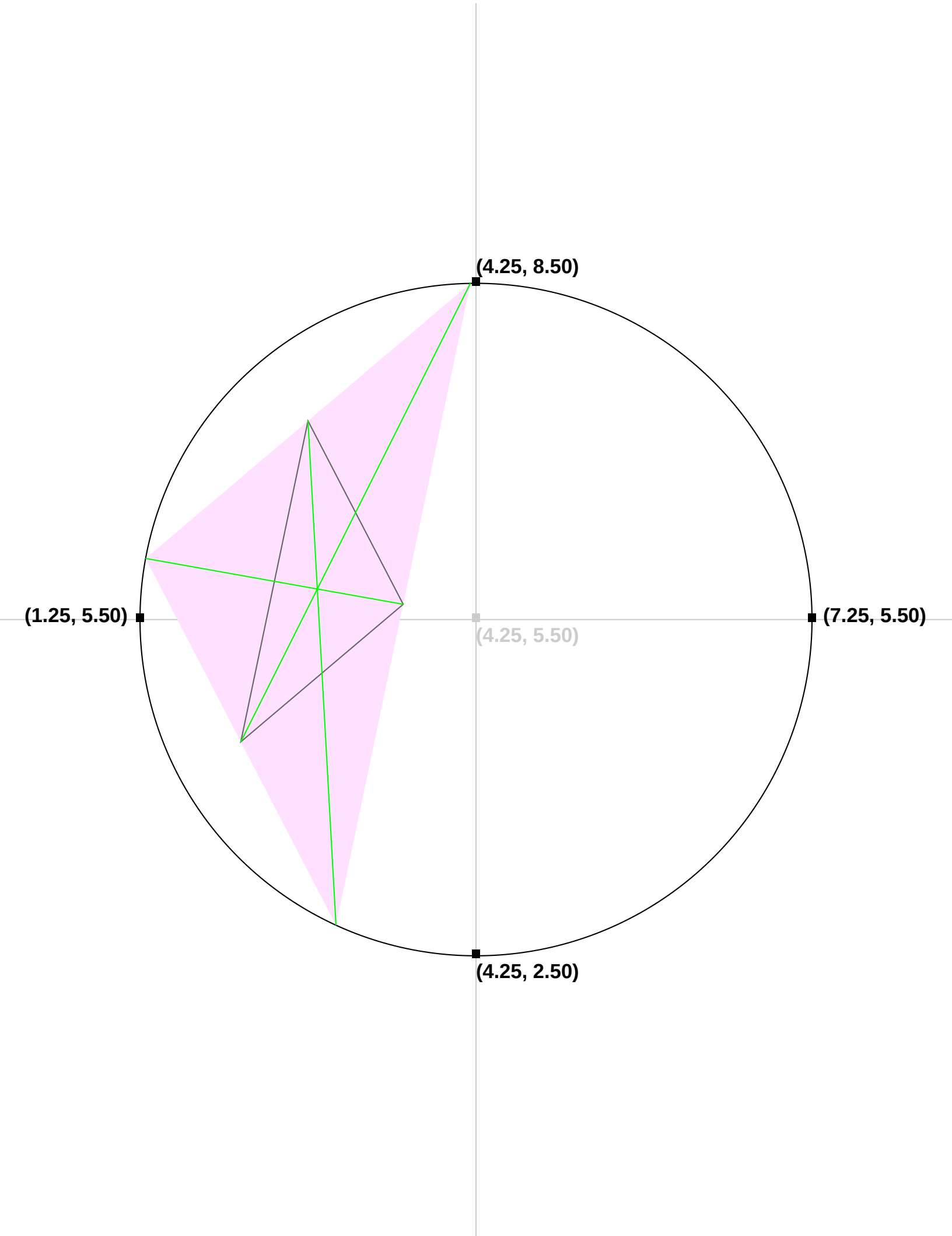

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

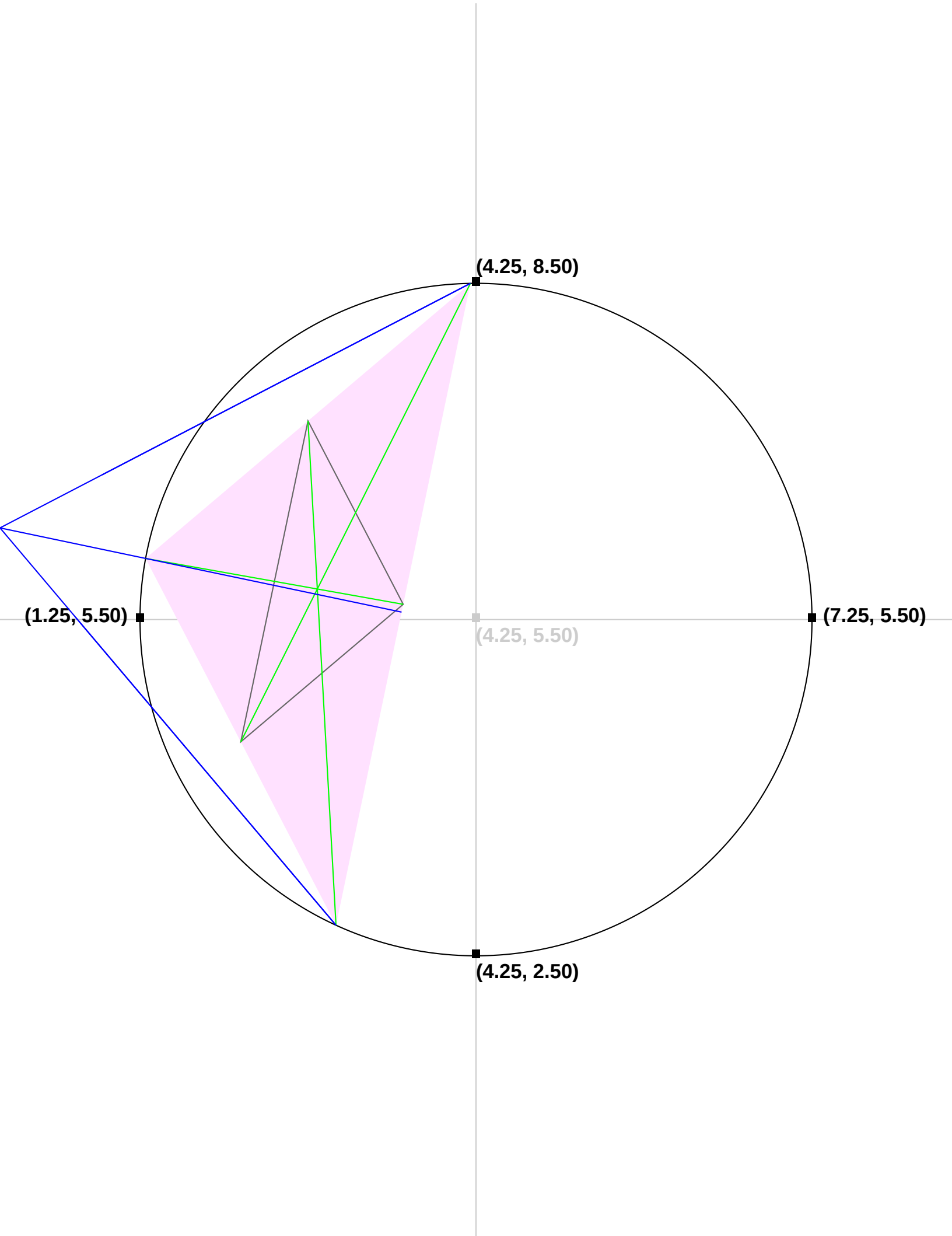
Here’s more Euler line of a triangle

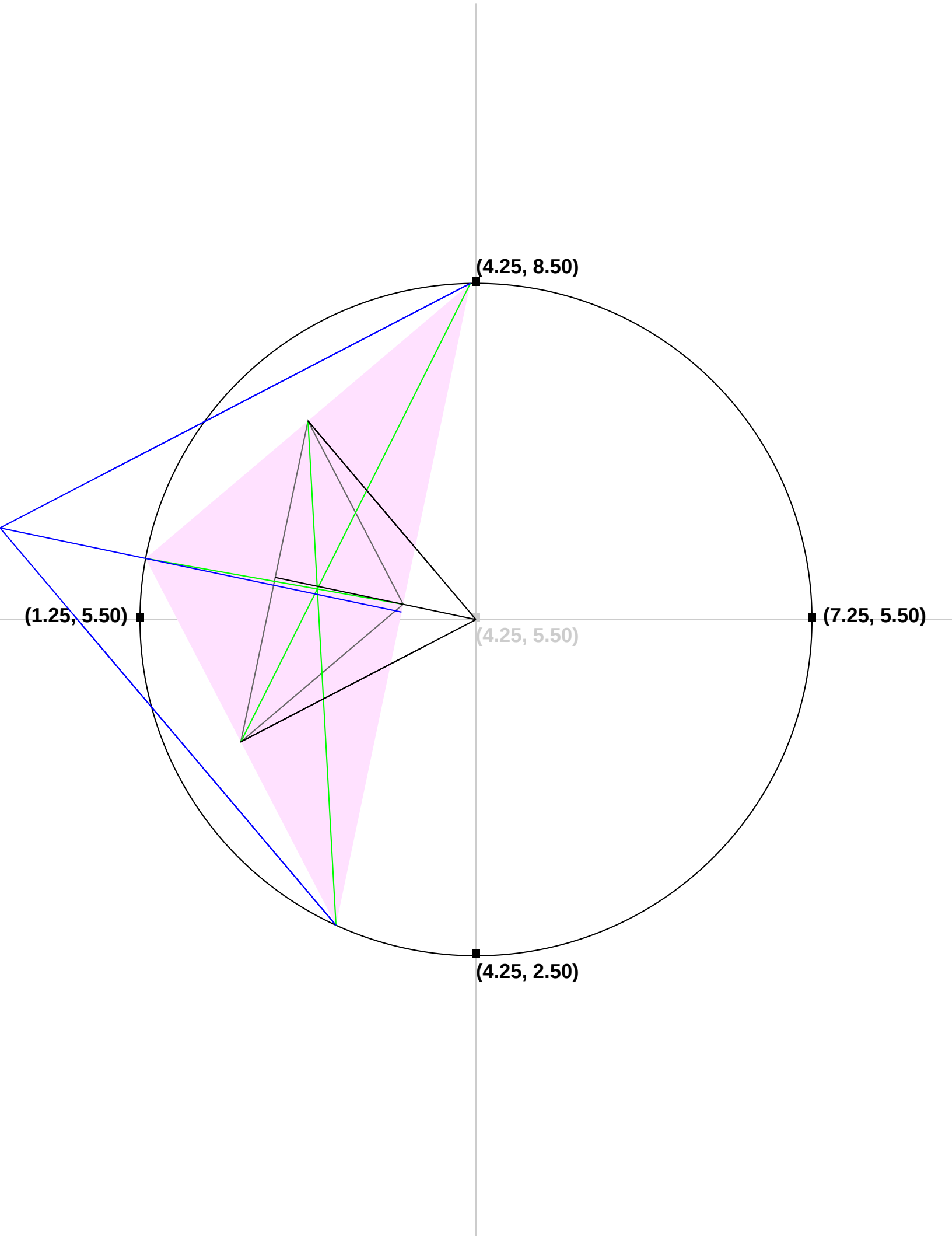


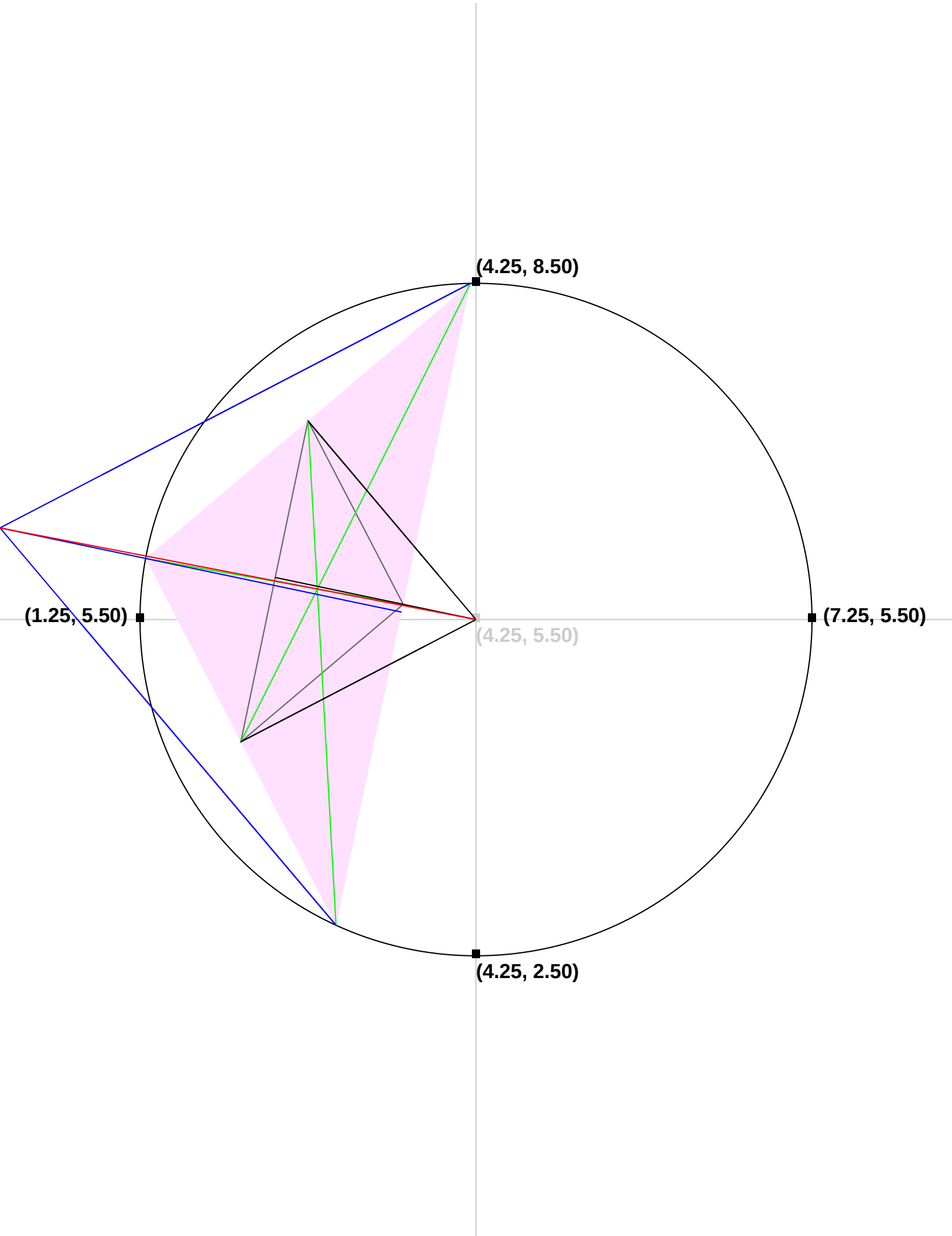

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

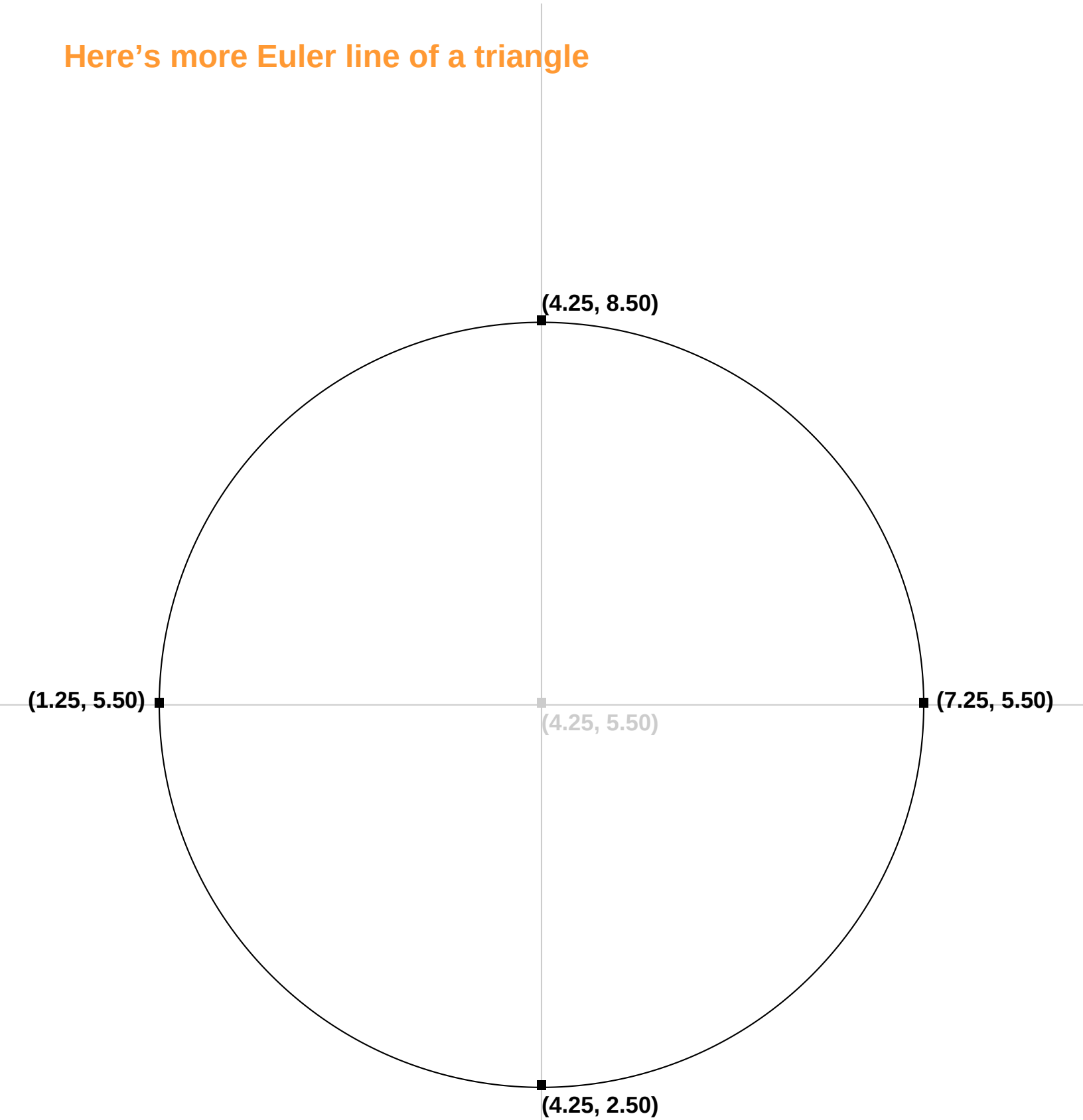

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

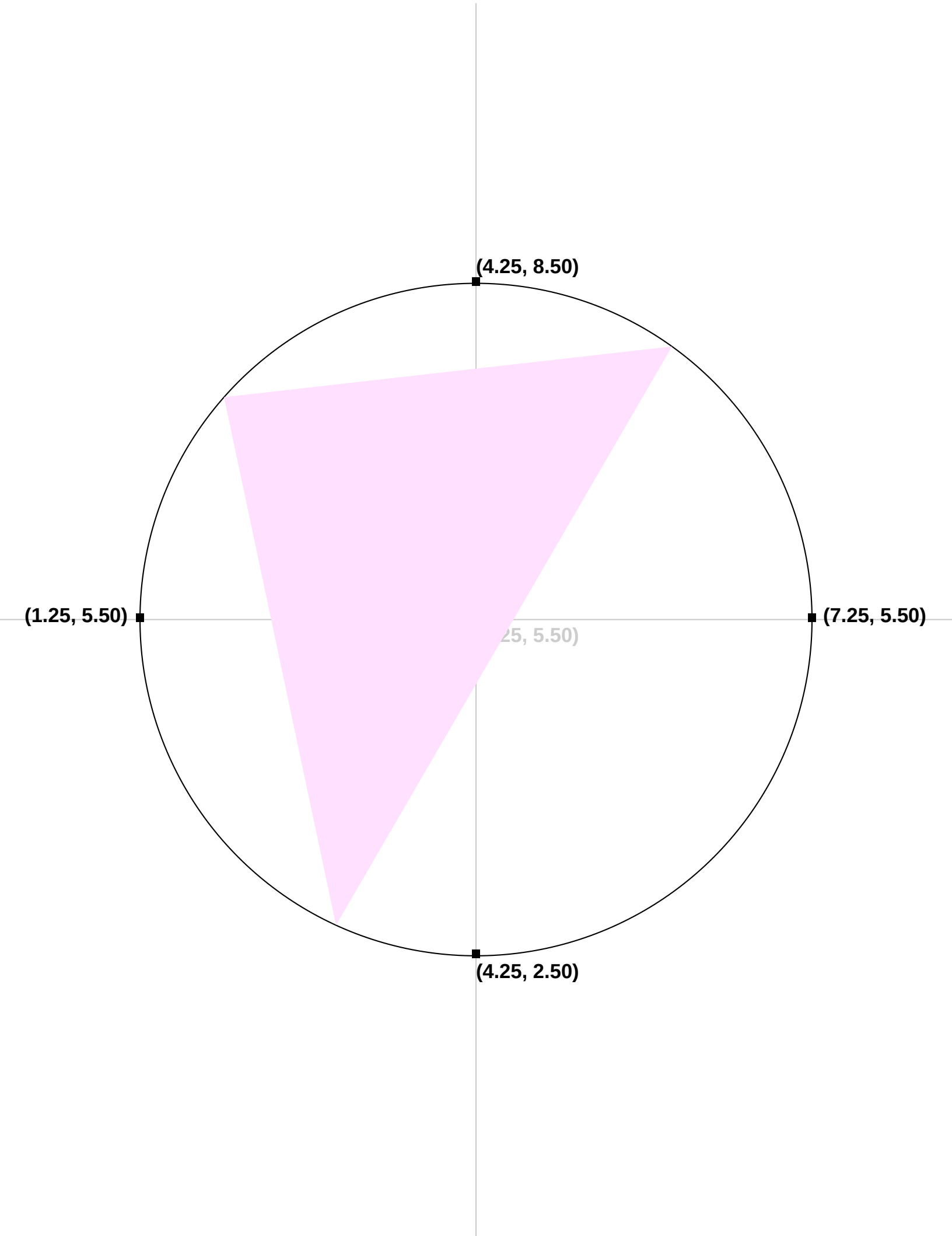

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

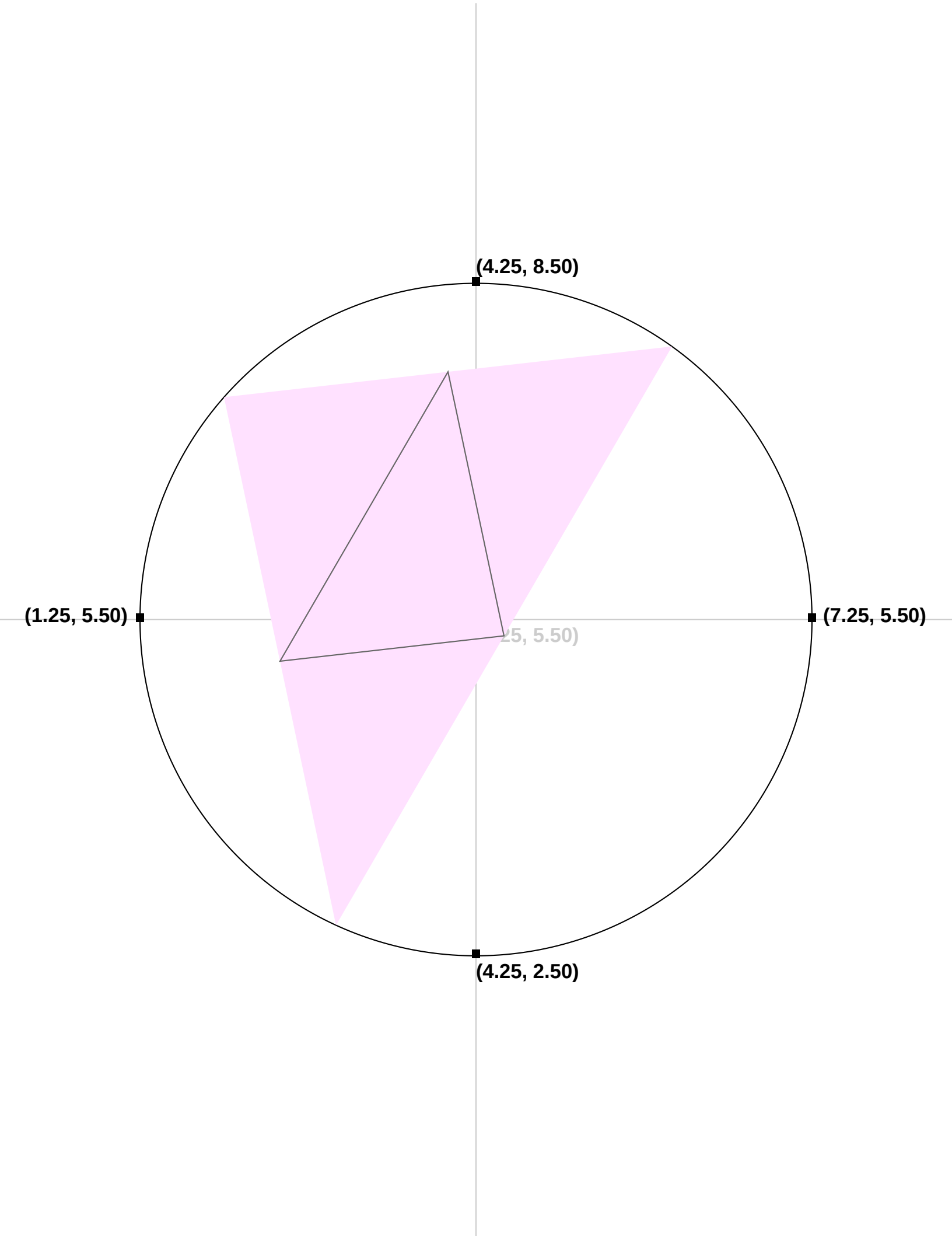

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

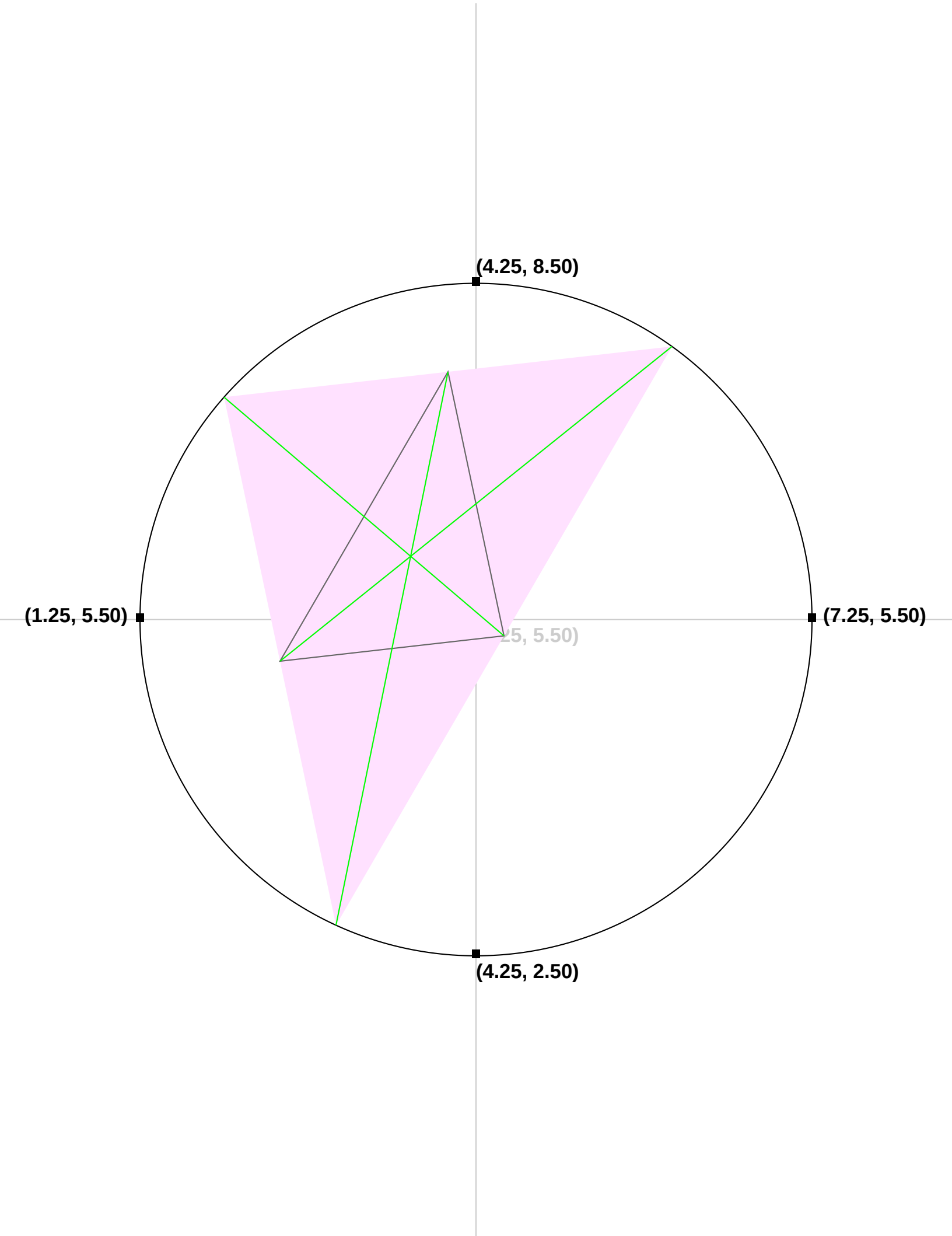

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

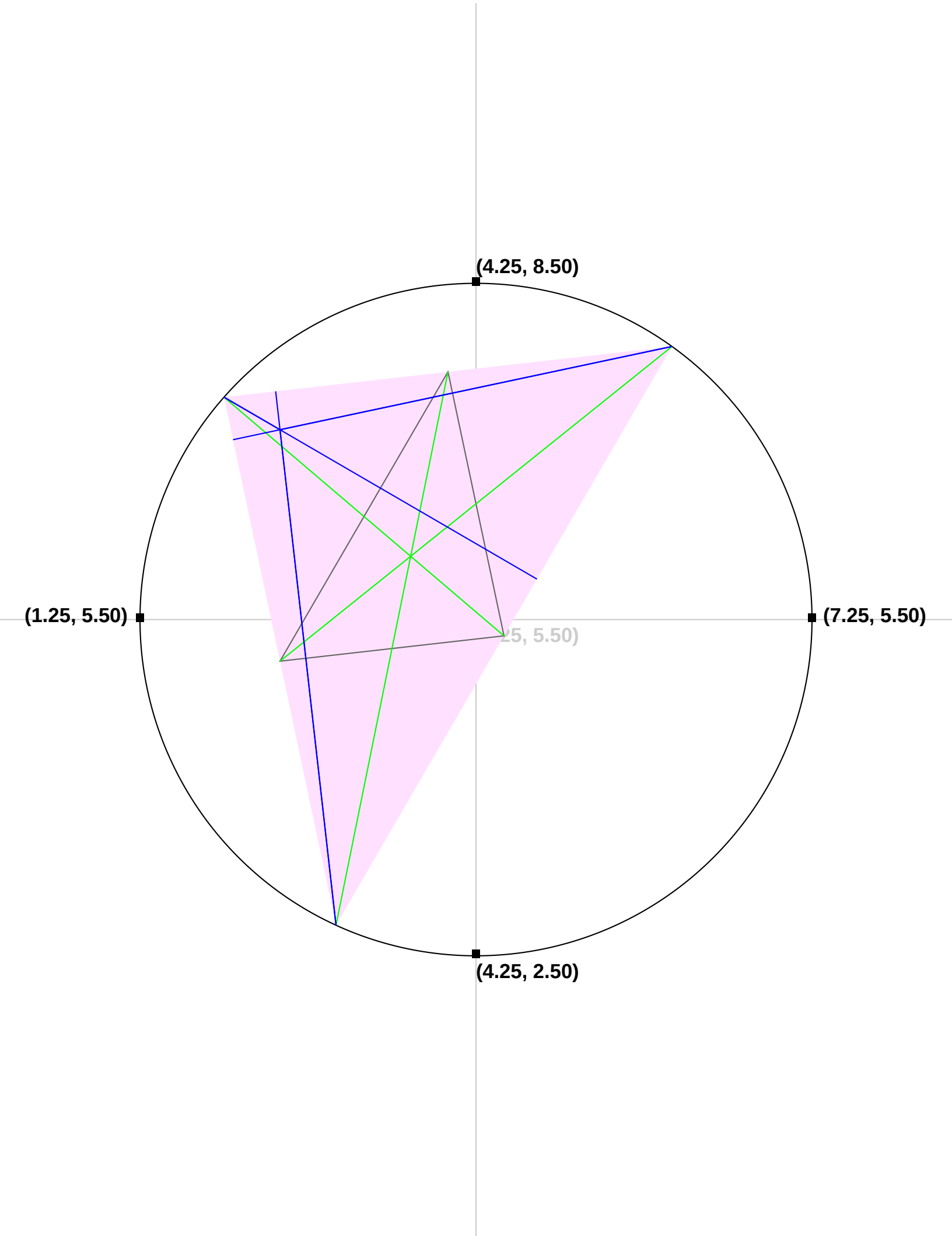
Here’s more Euler line of a triangle

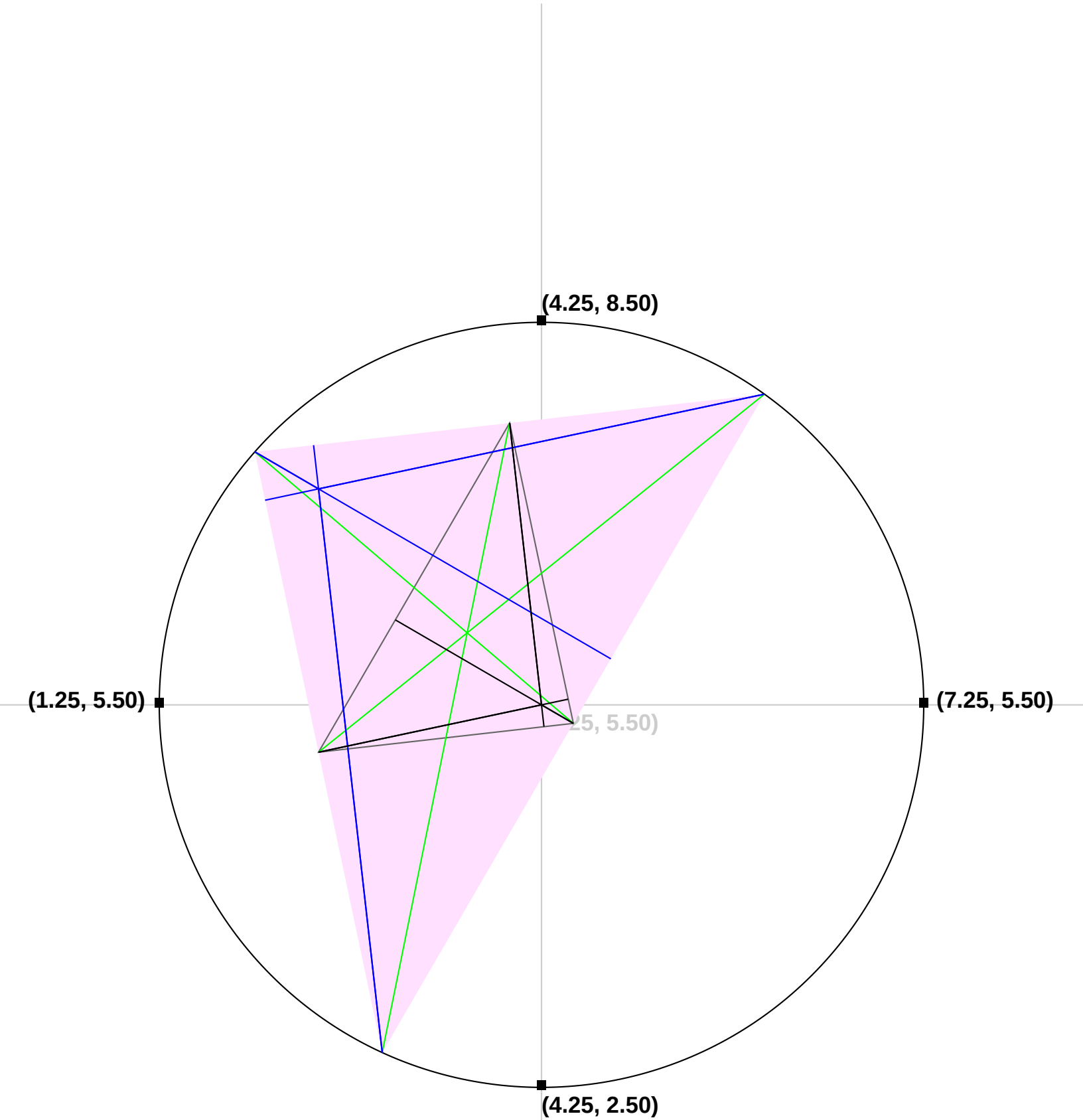


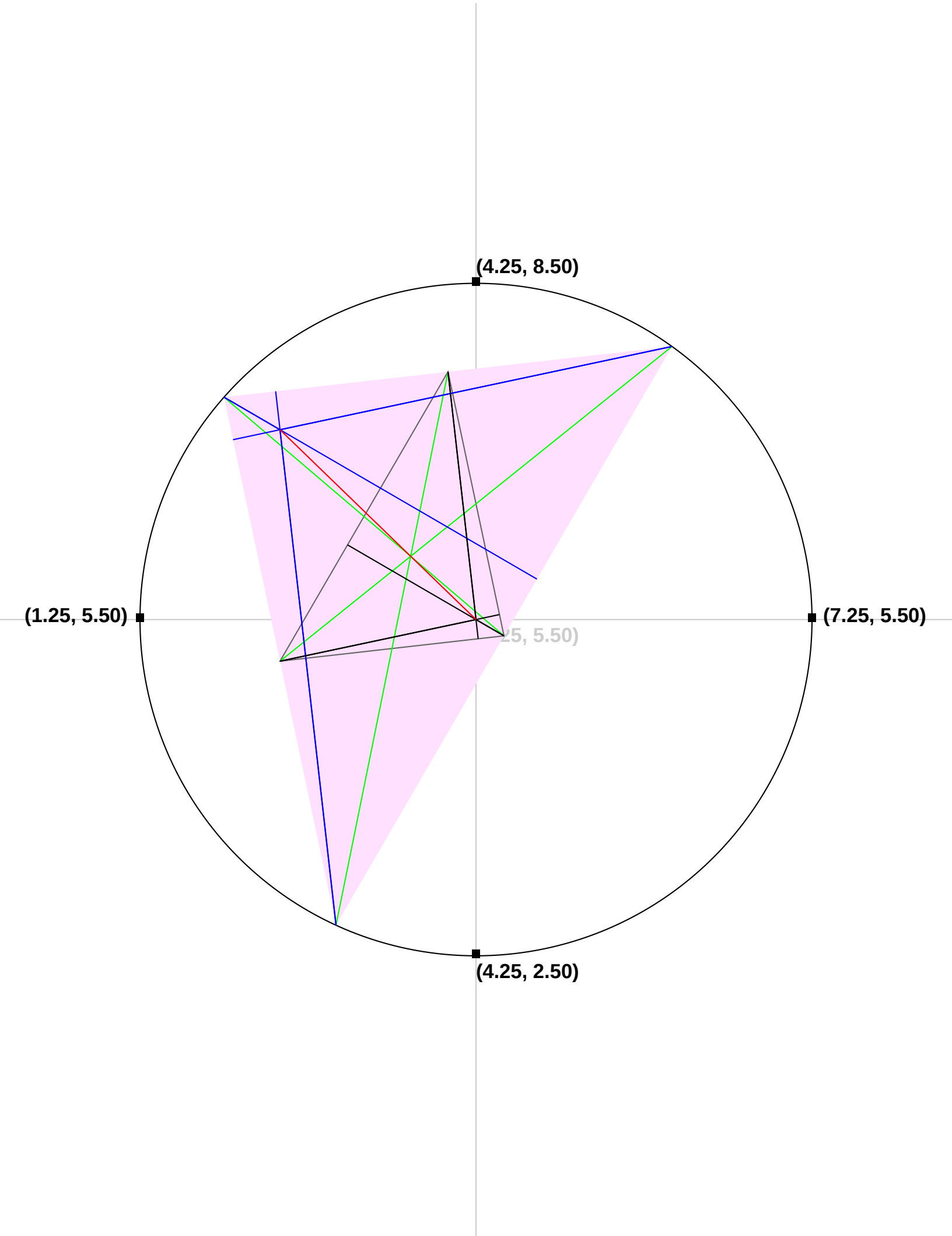

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
25, 5.50)
(4.25, 2.50)

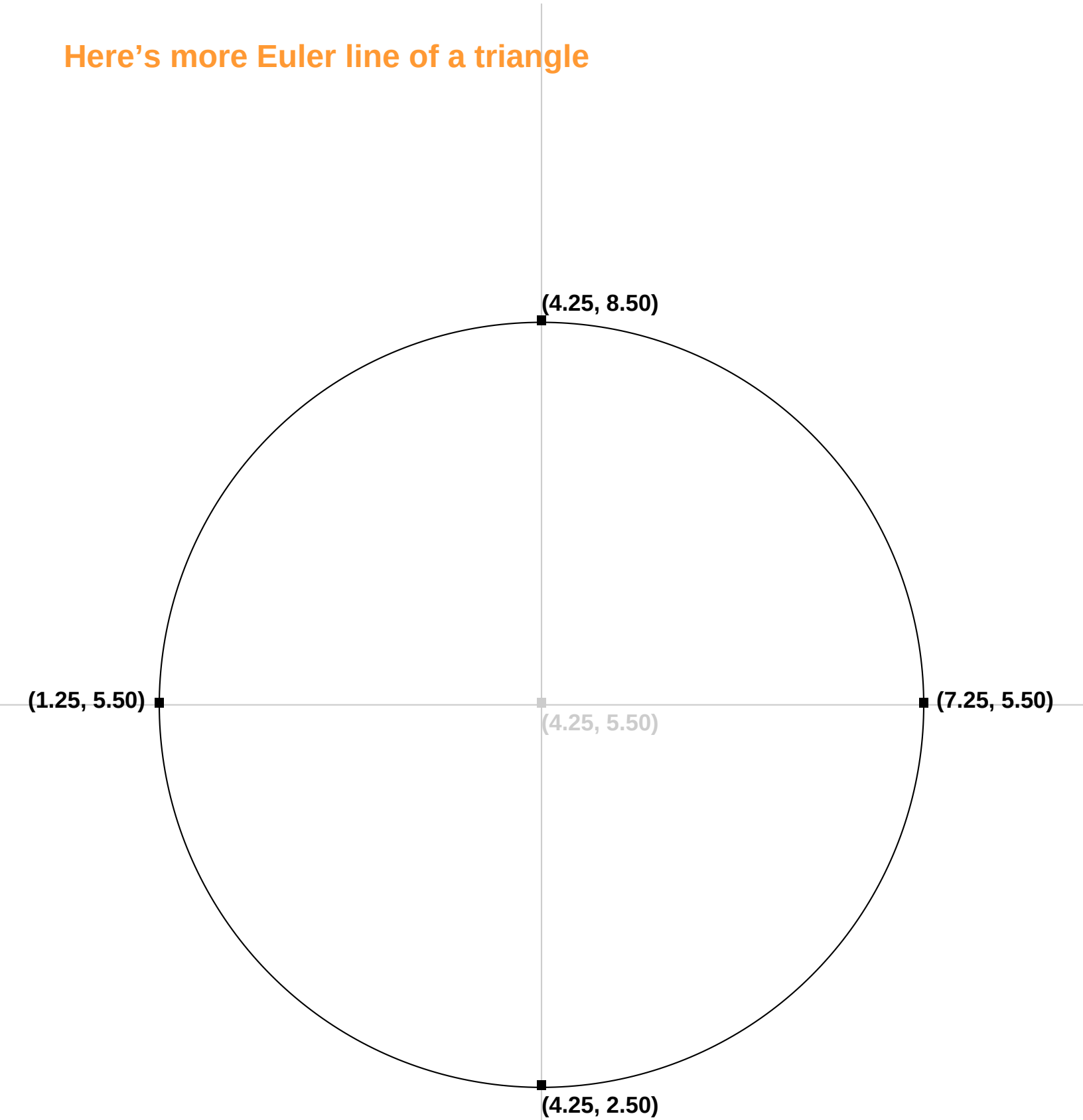

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
25, 5.50)
(4.25, 2.50)

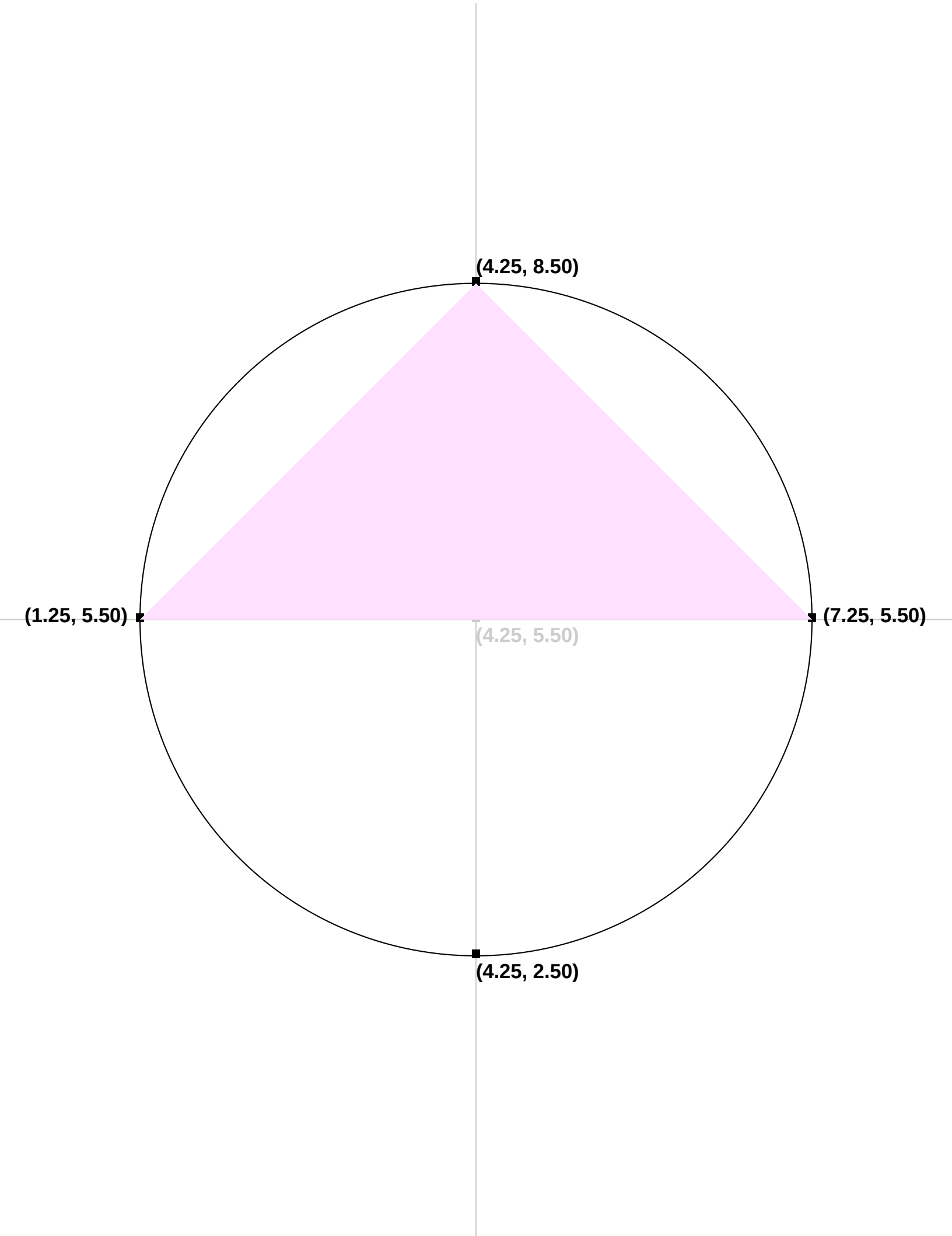

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
25, 5.50)
(4.25, 2.50)

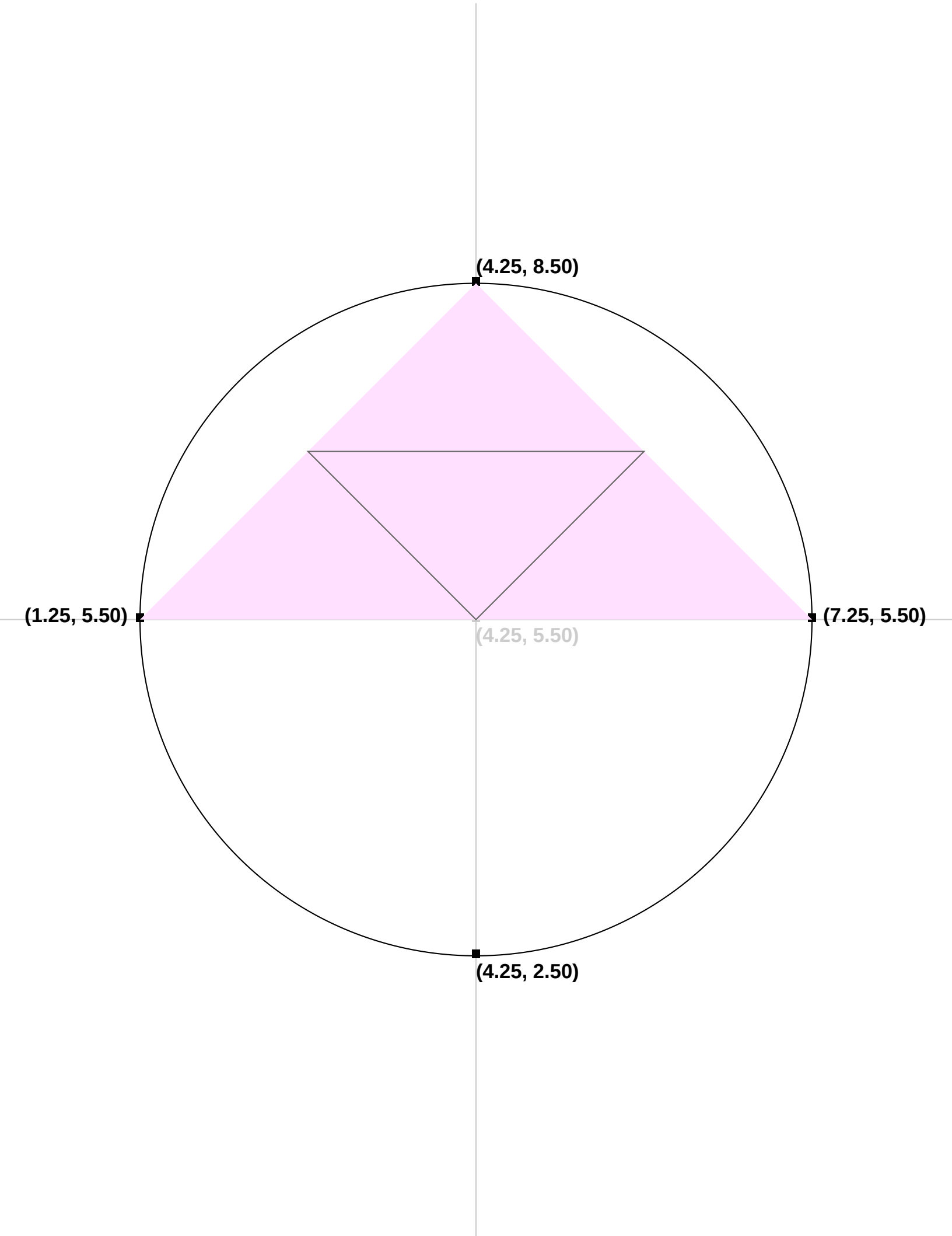

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
25, 5.50)
(4.25, 2.50)

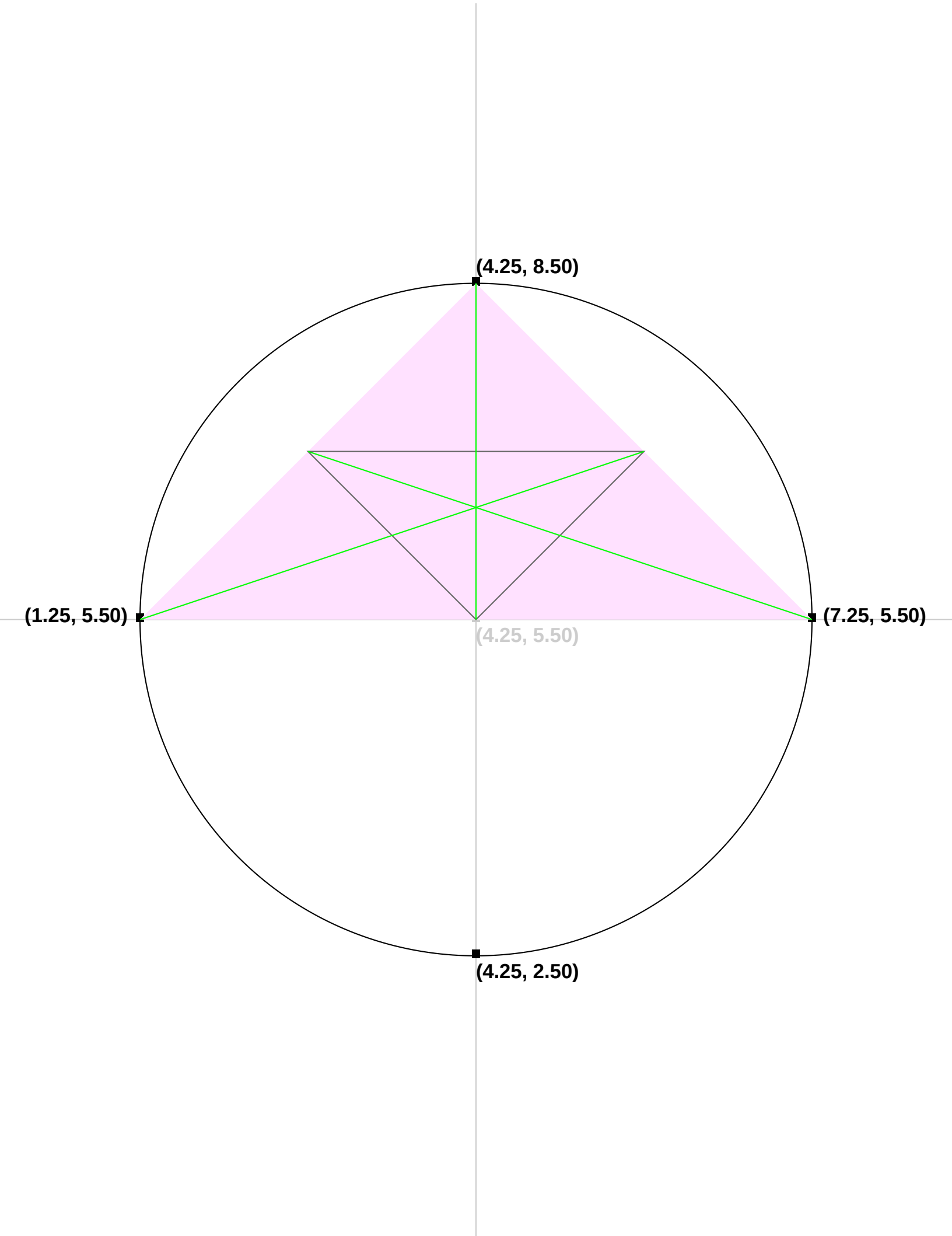

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
25, 5.50)
(4.25, 2.50)

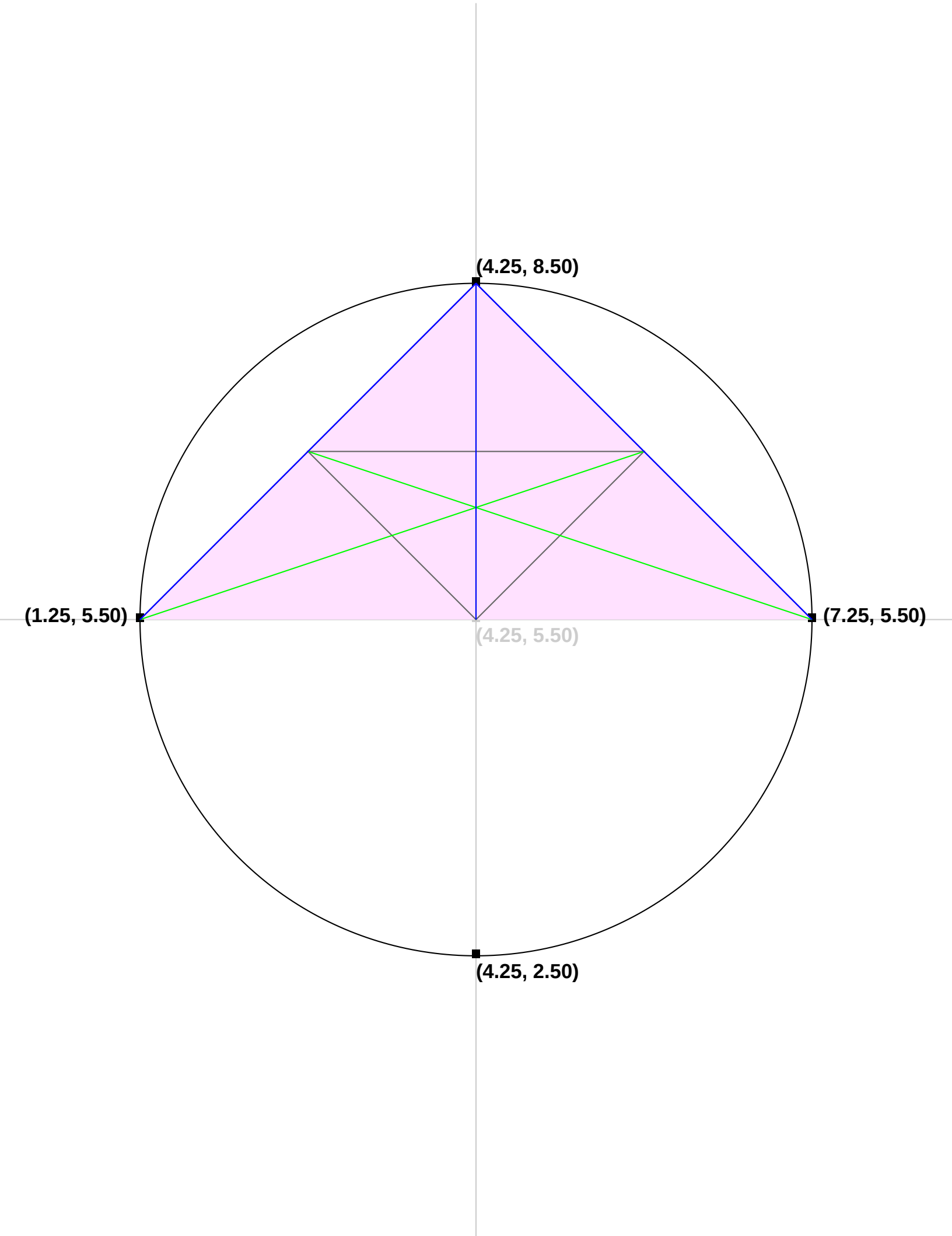
Here’s more Euler line of a triangle

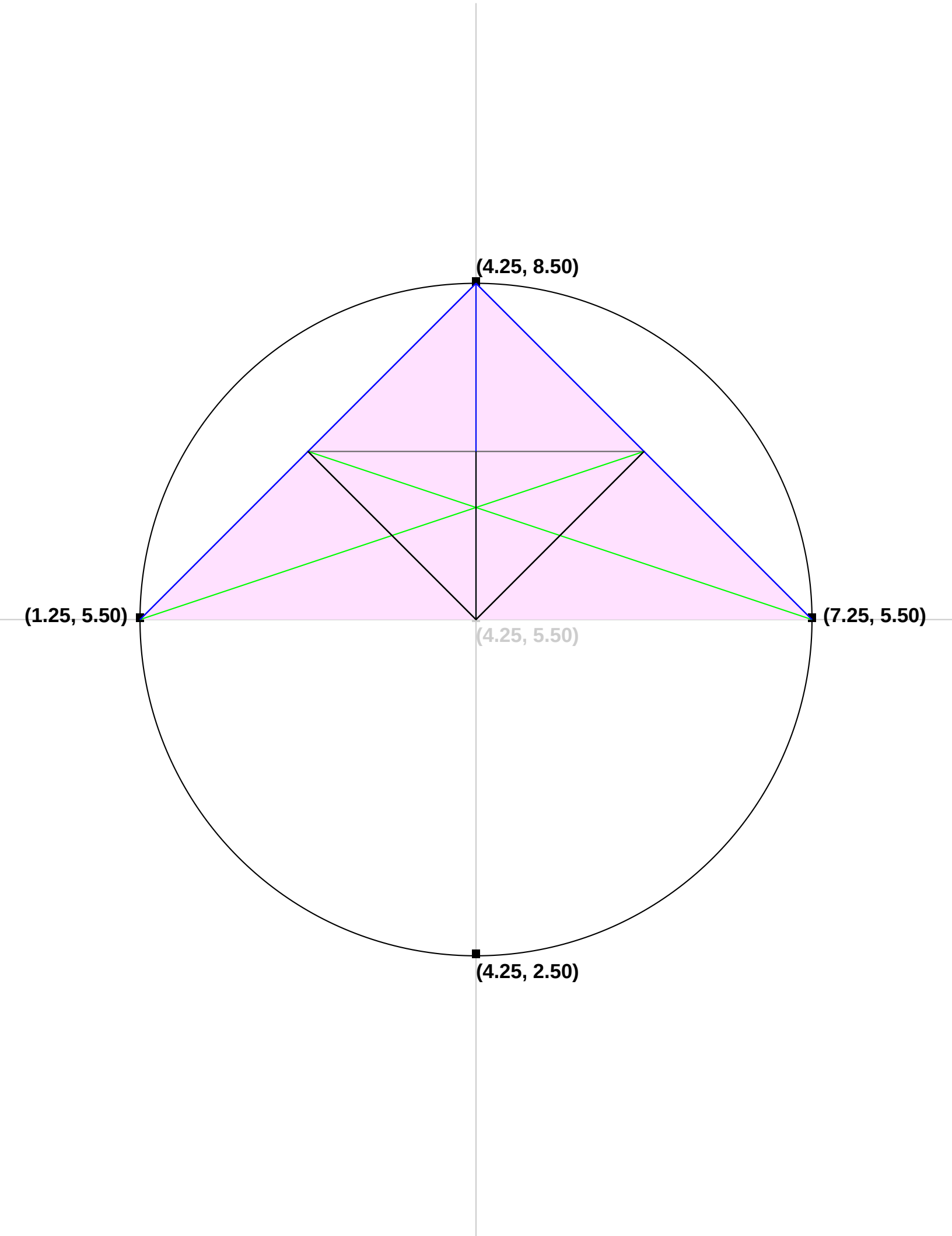


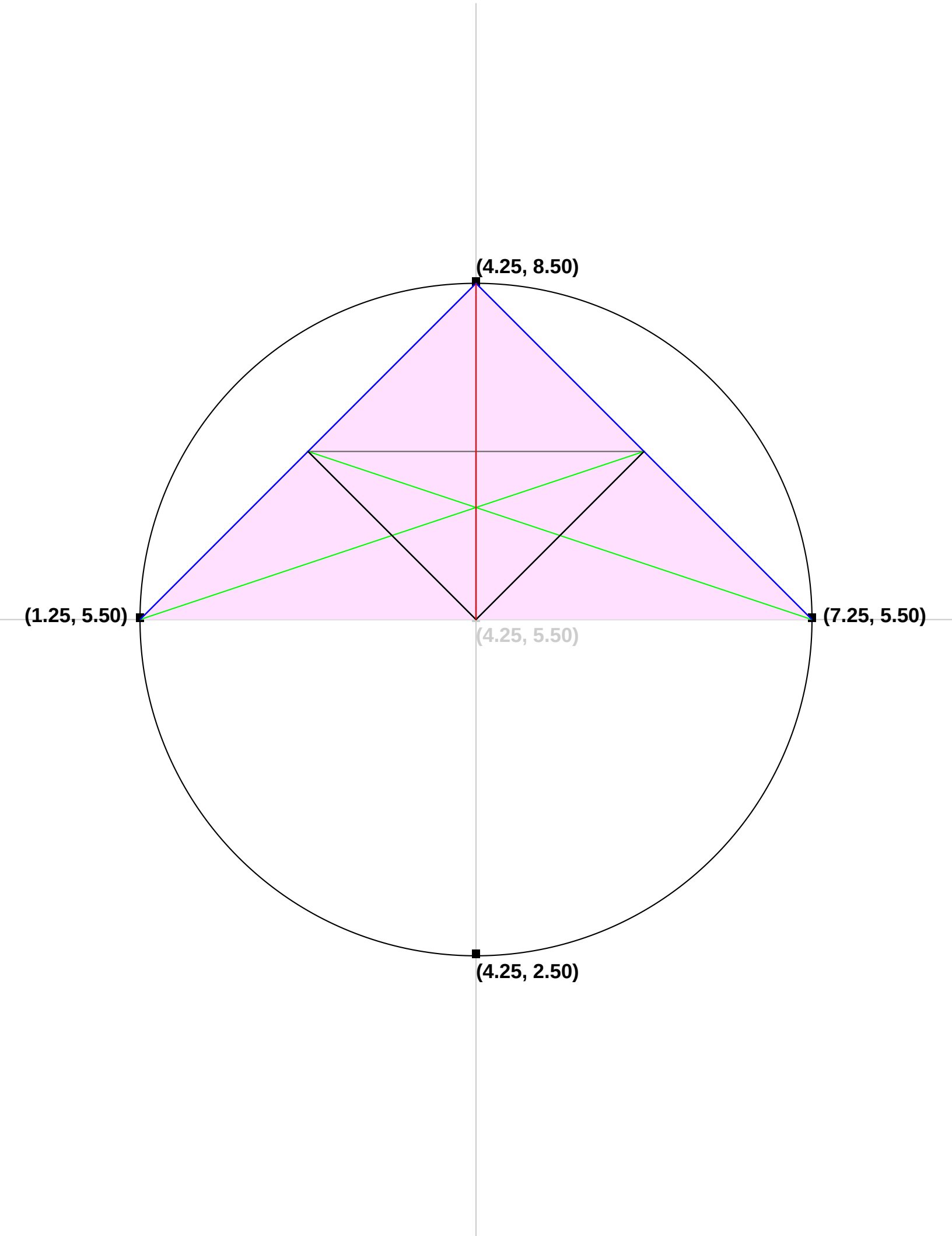

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

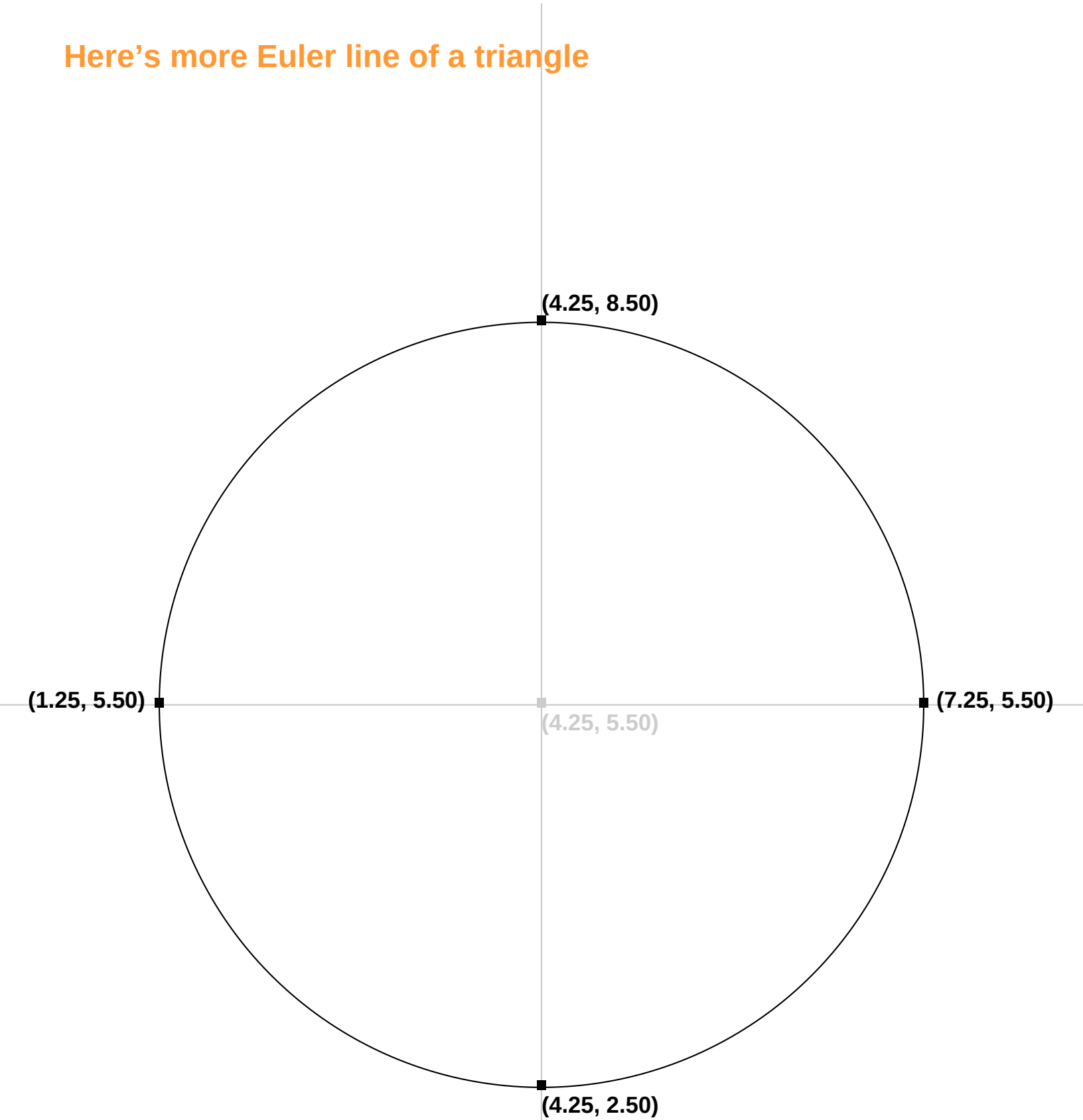

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

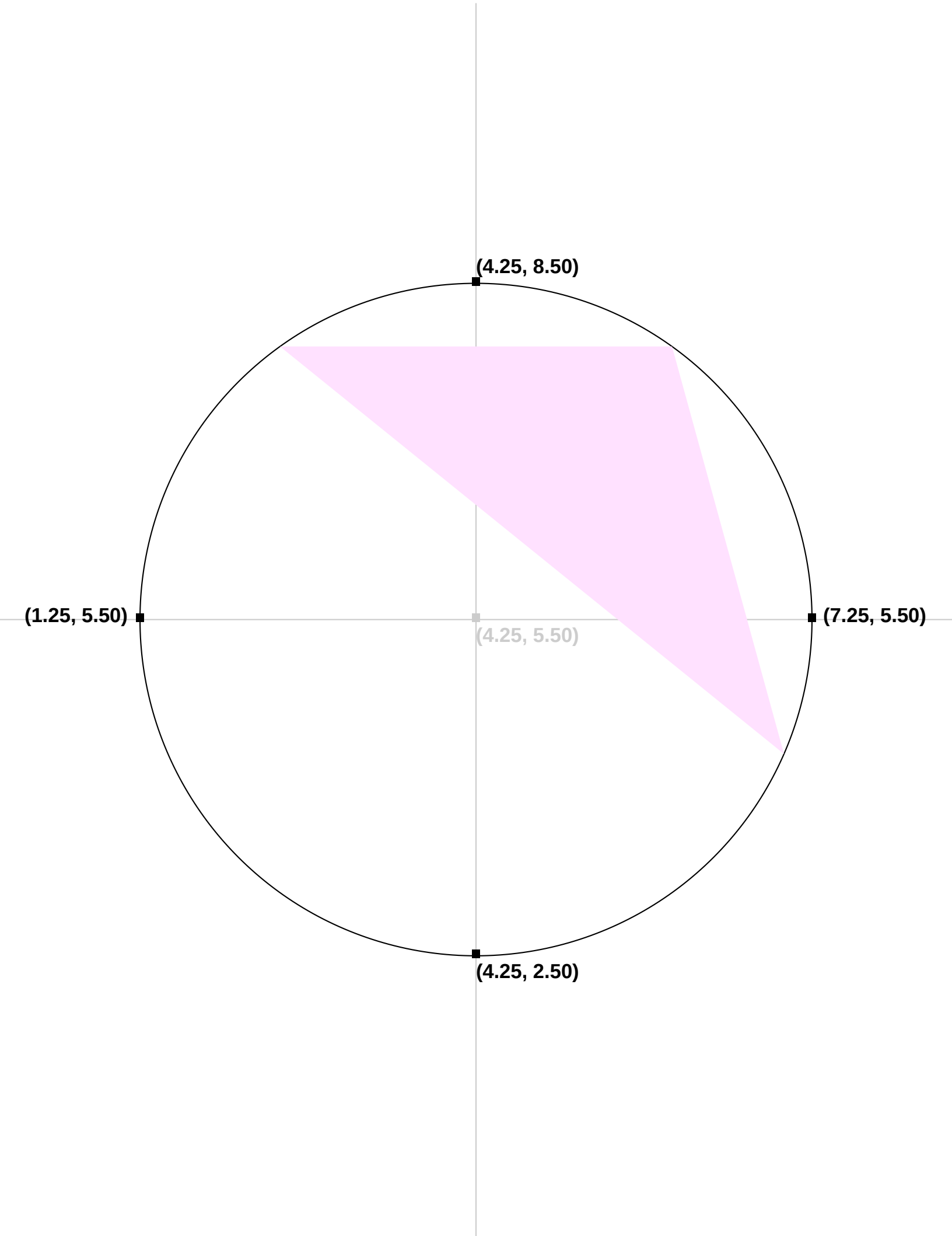

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

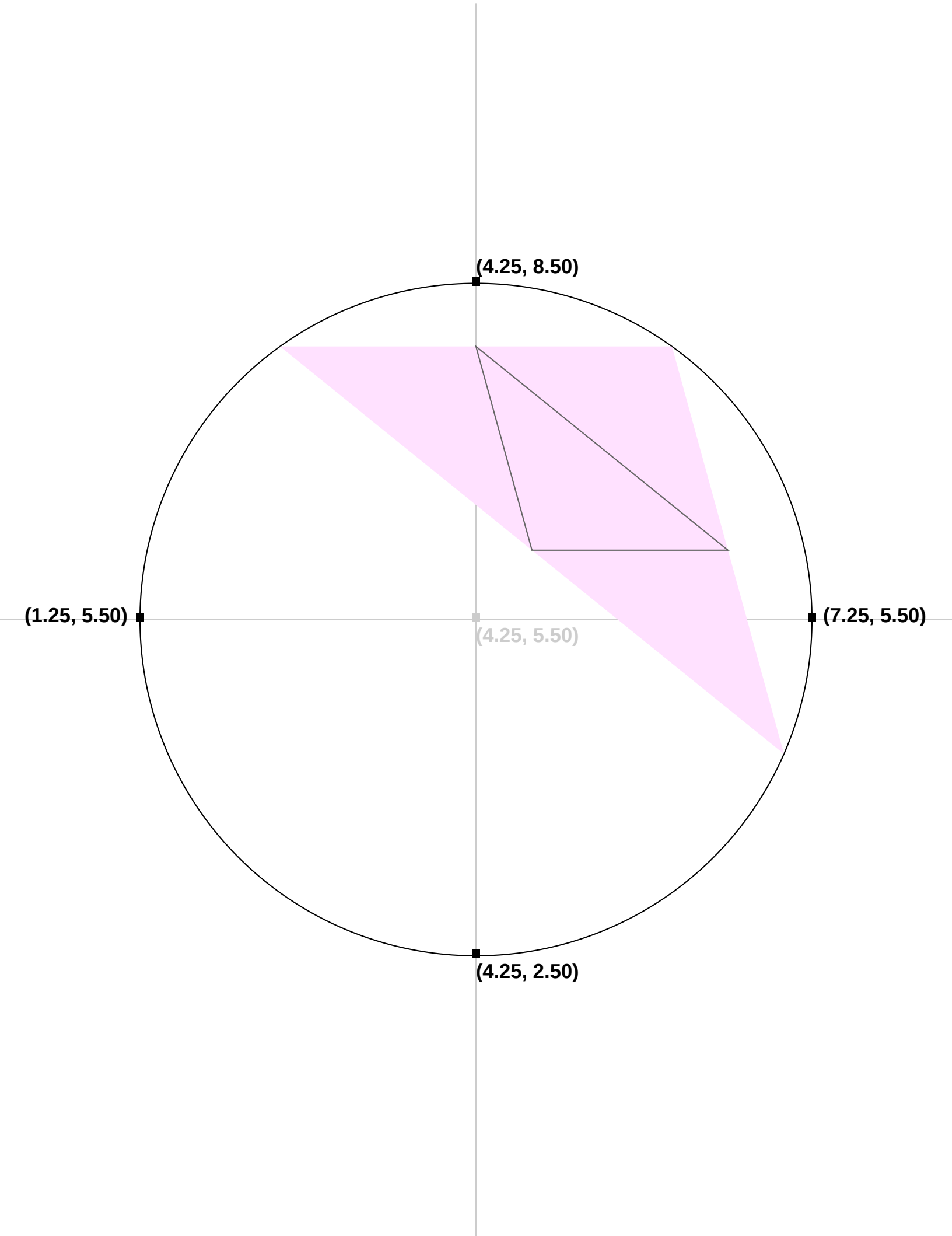

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

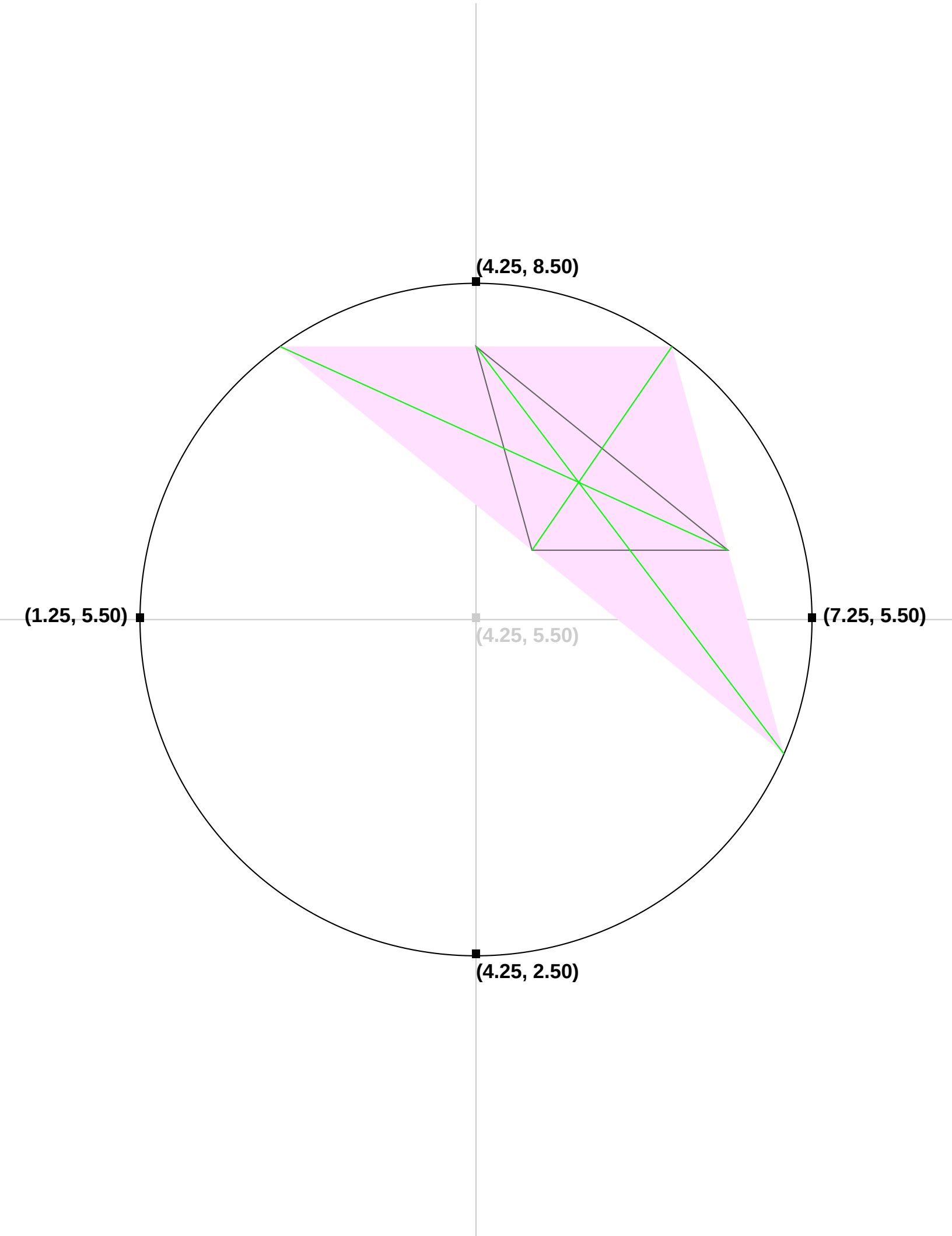

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

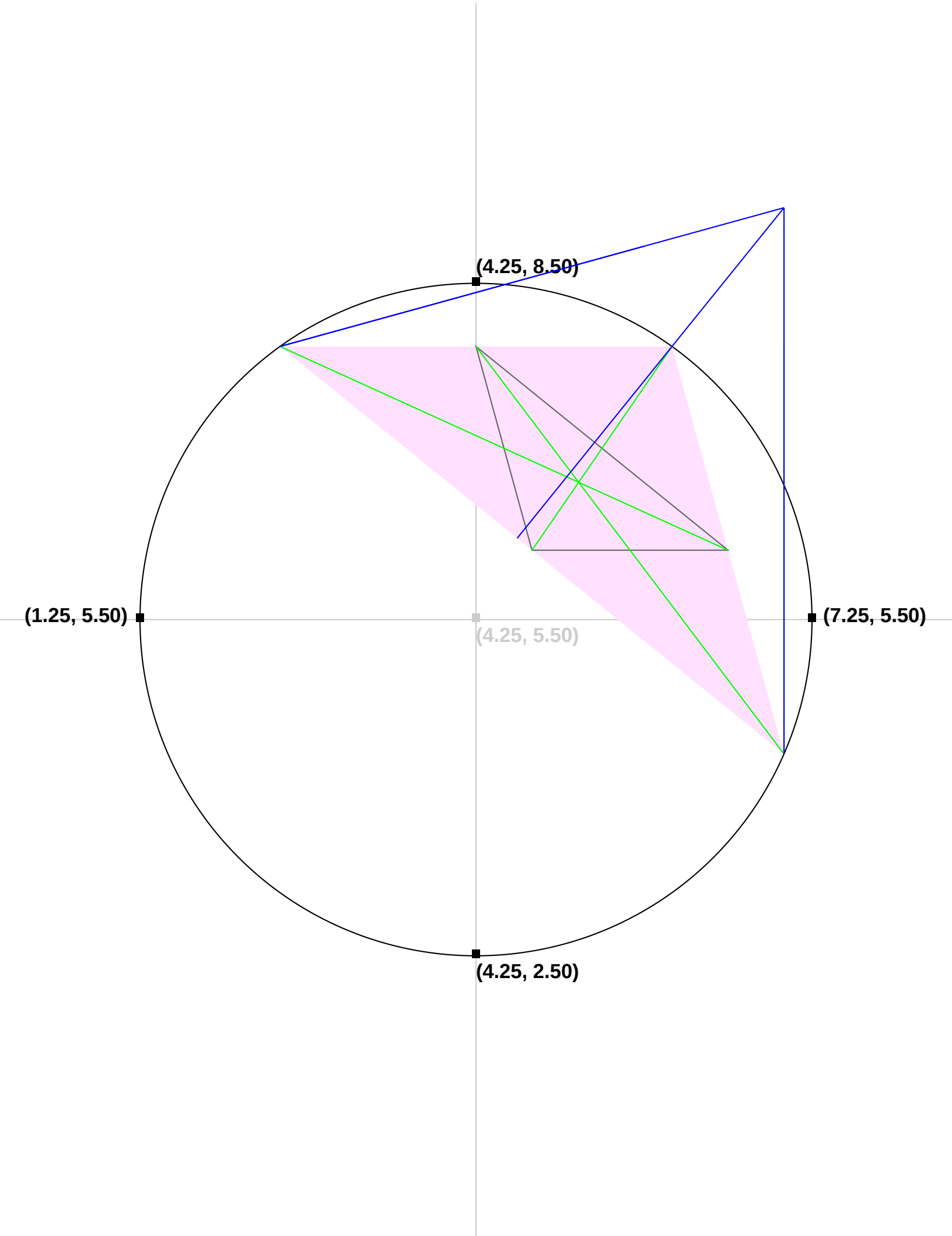
Here’s more Euler line of a triangle

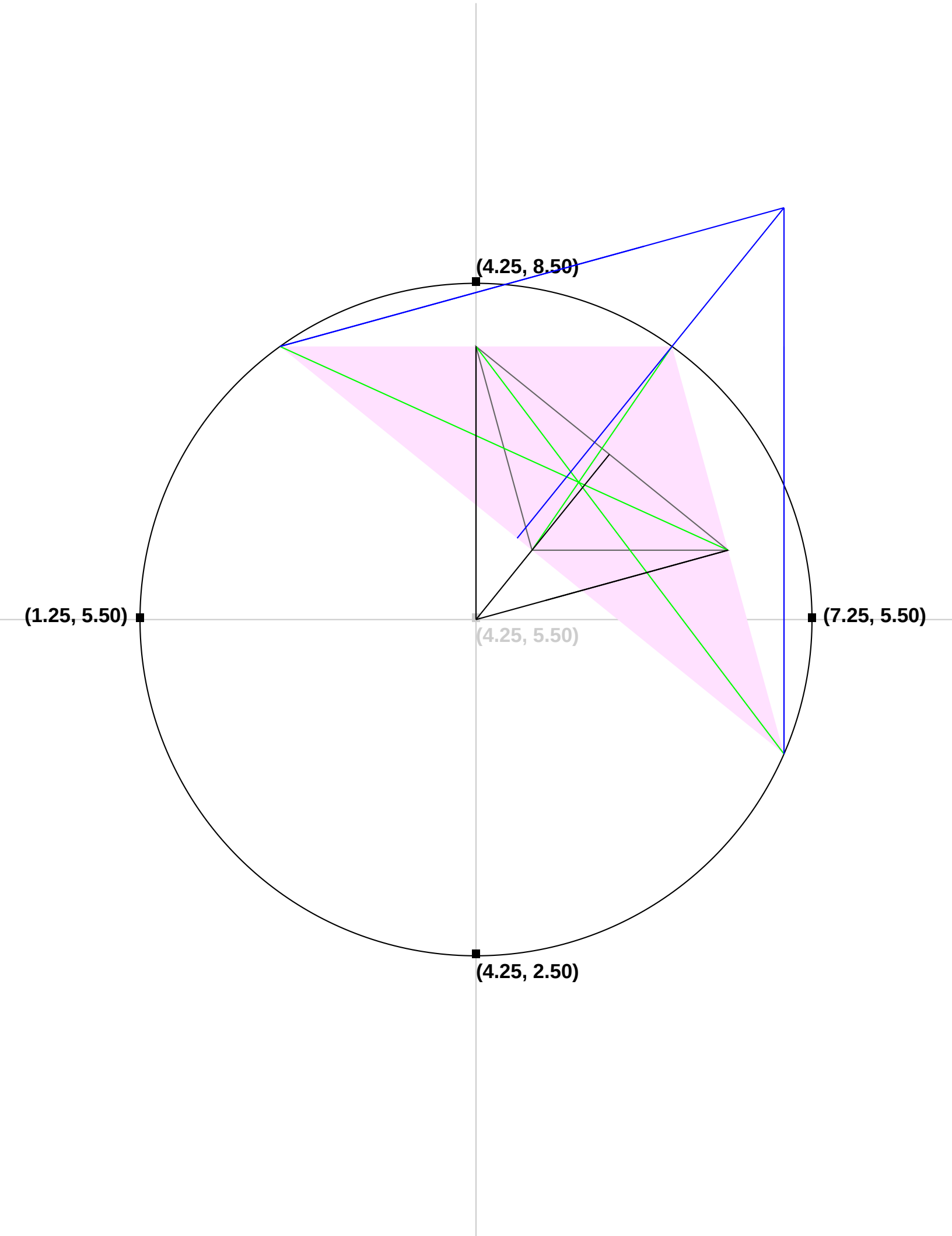


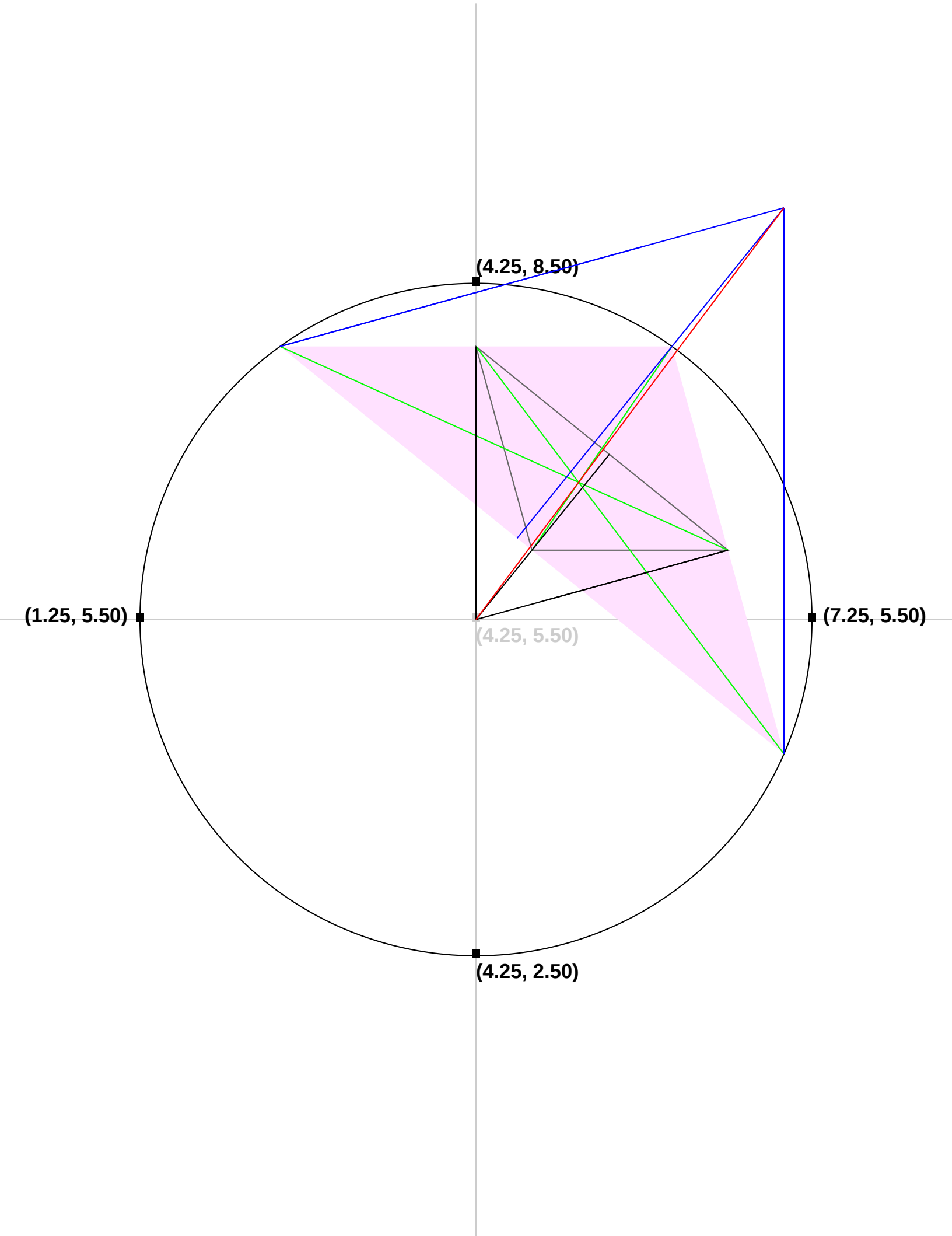

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

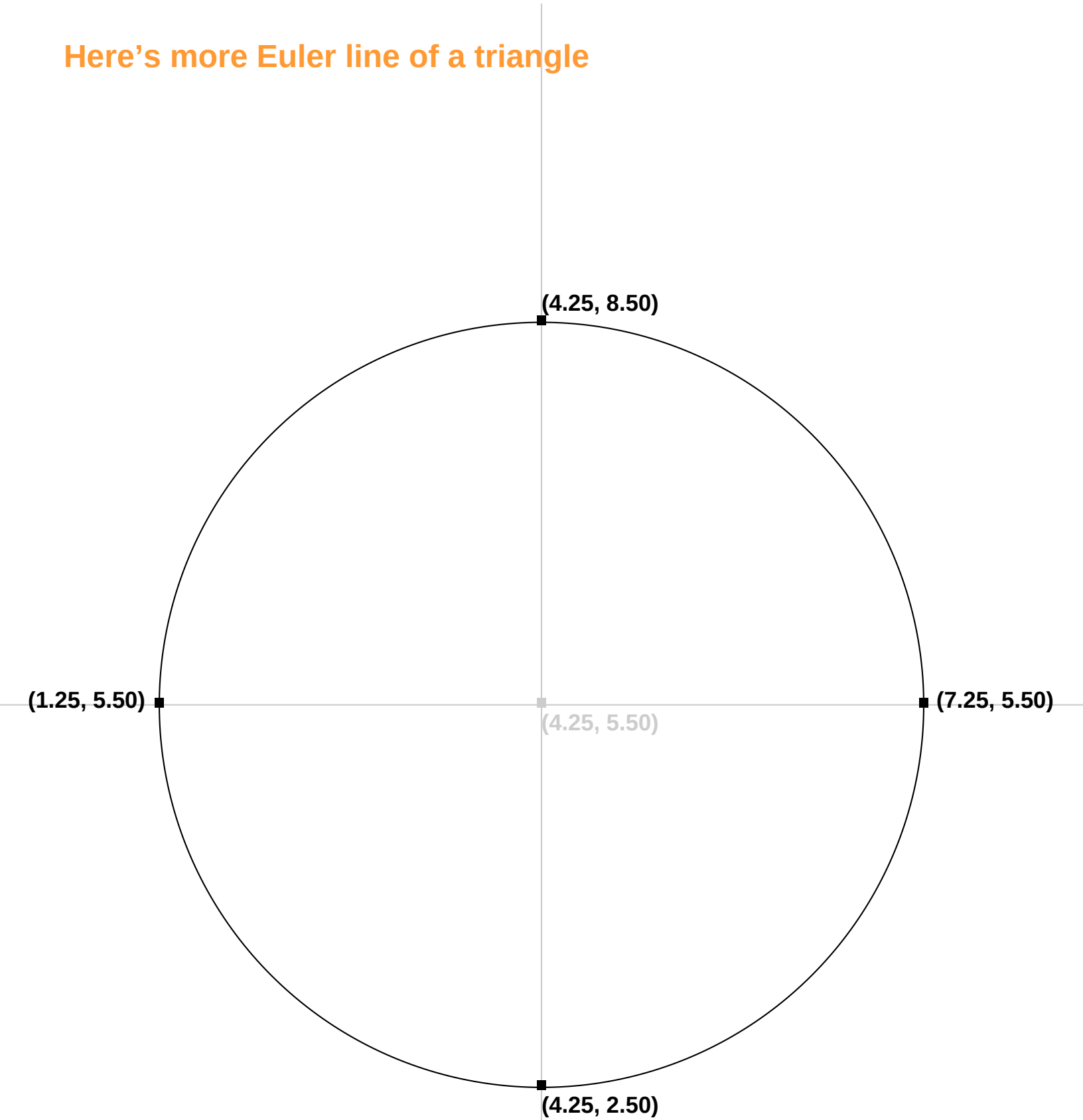

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

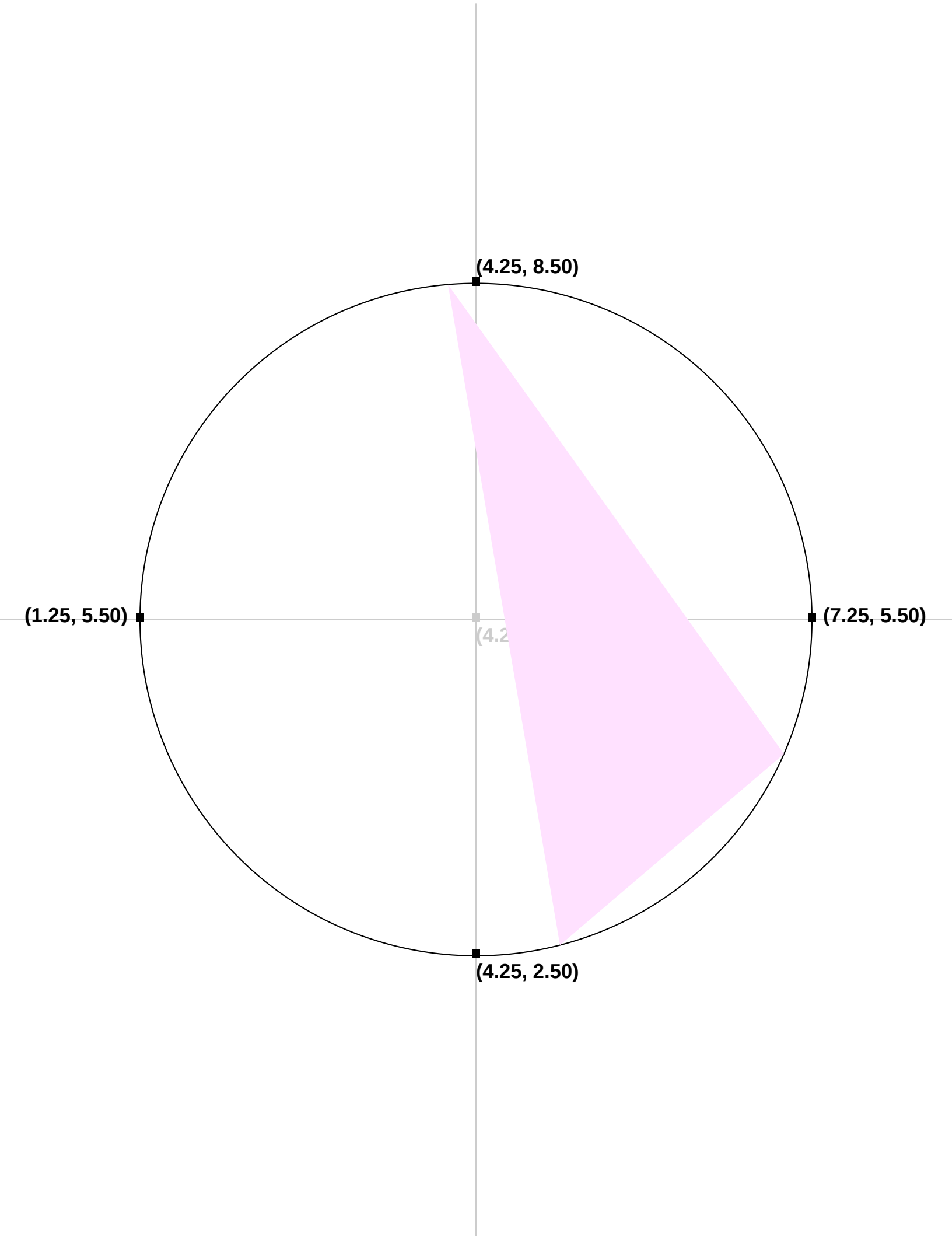

(4.25, 8.50)
(1.25, 5.50)
(4.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

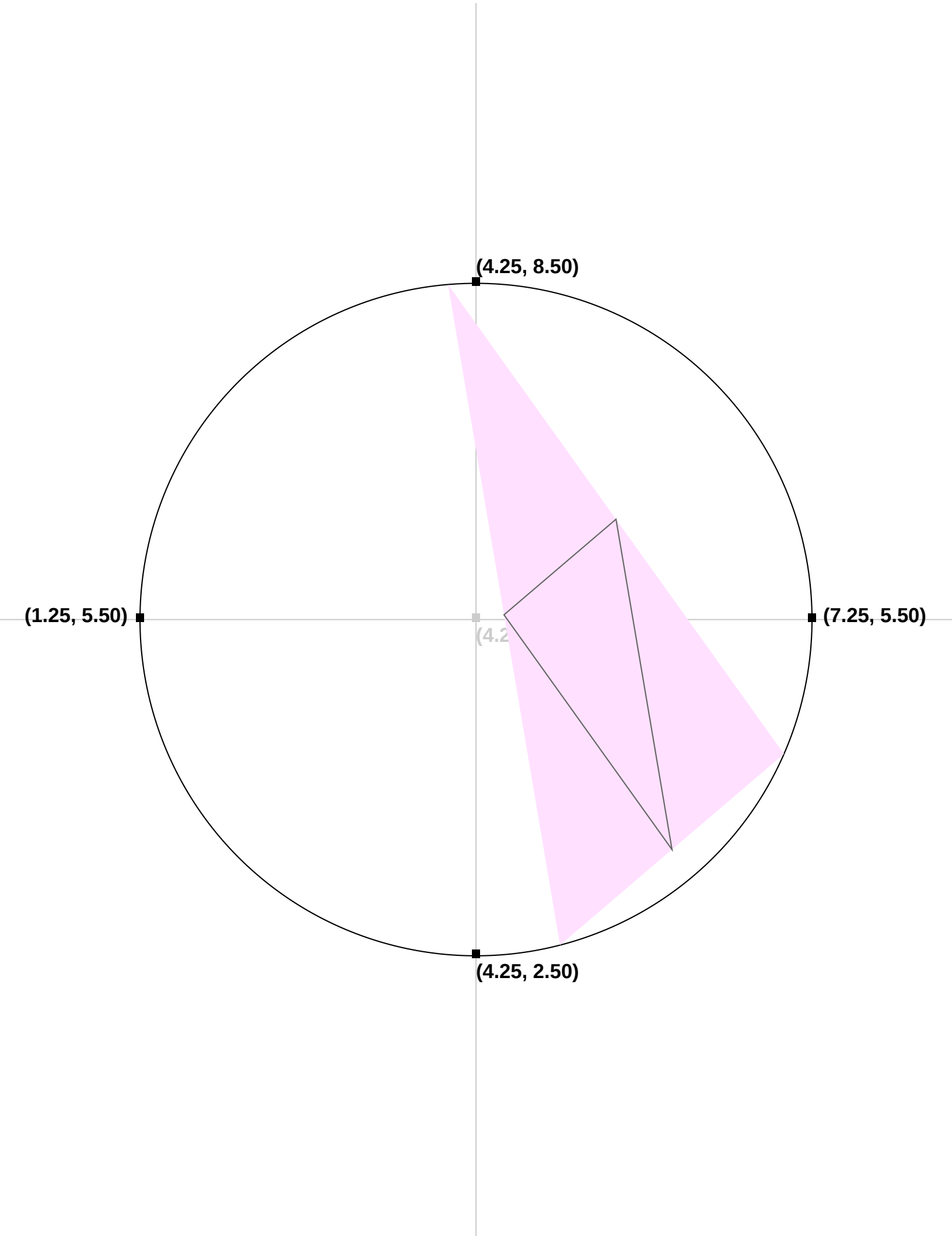

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

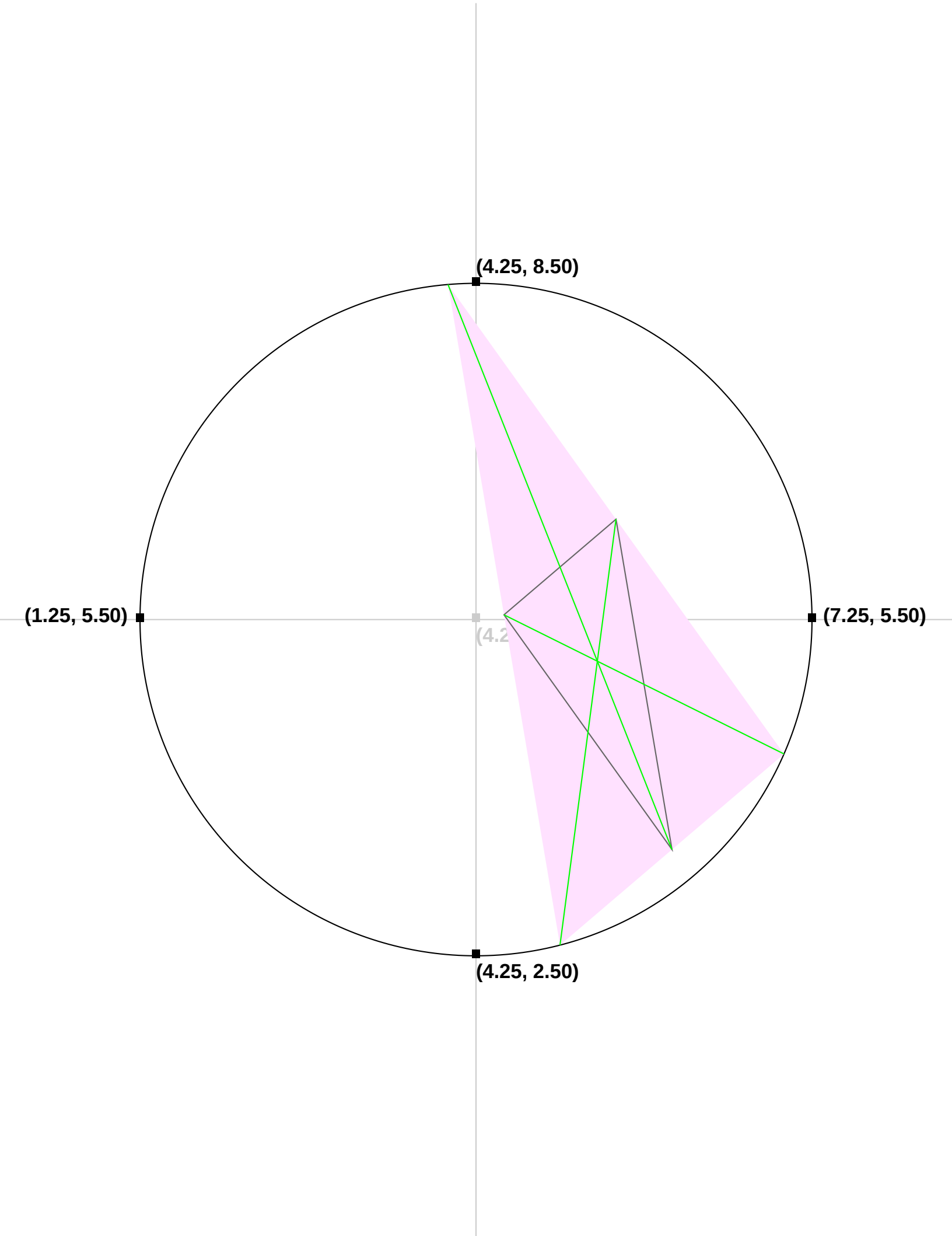

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 5.50)
(4.25, 2.50)

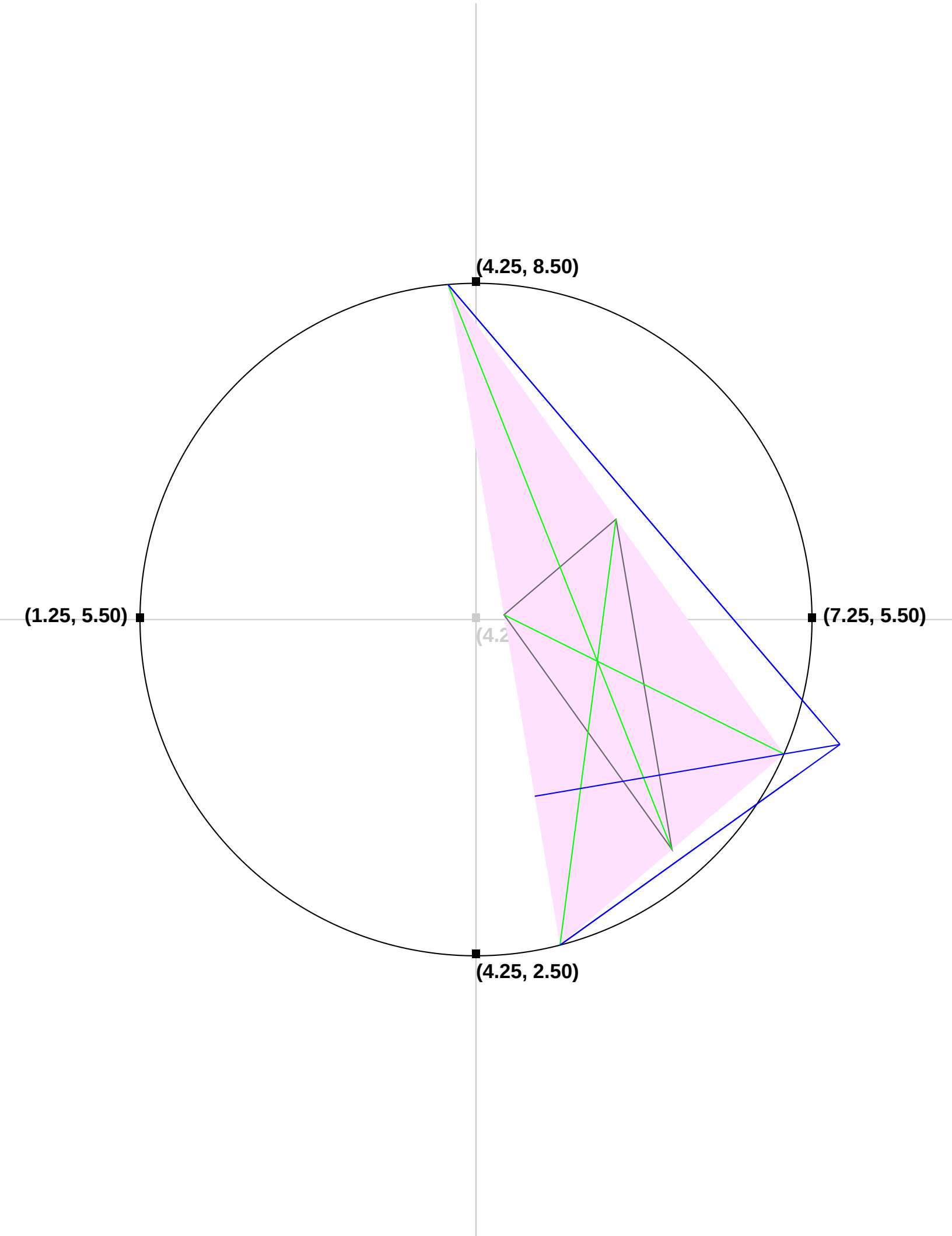
Here’s more Euler line of a triangle

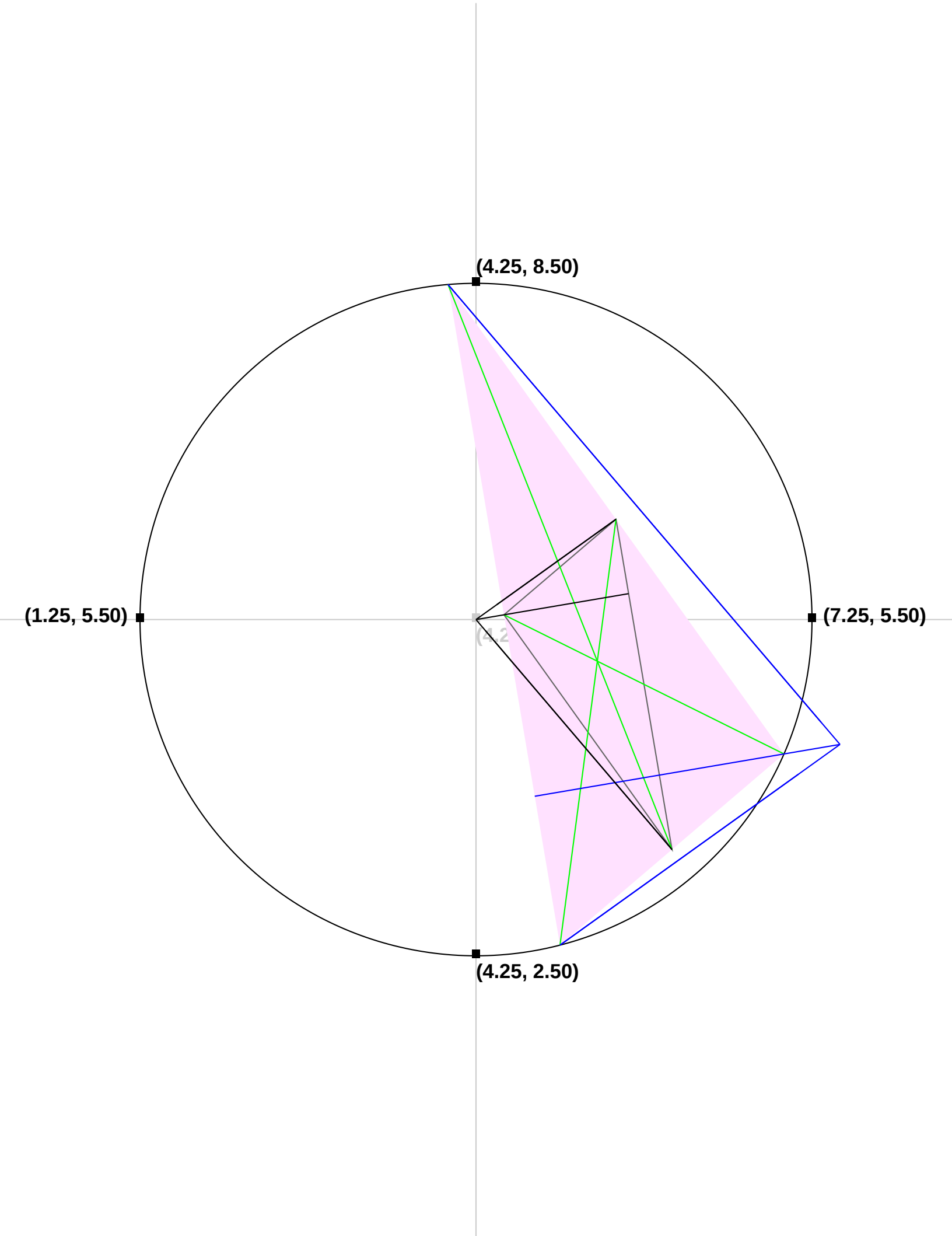


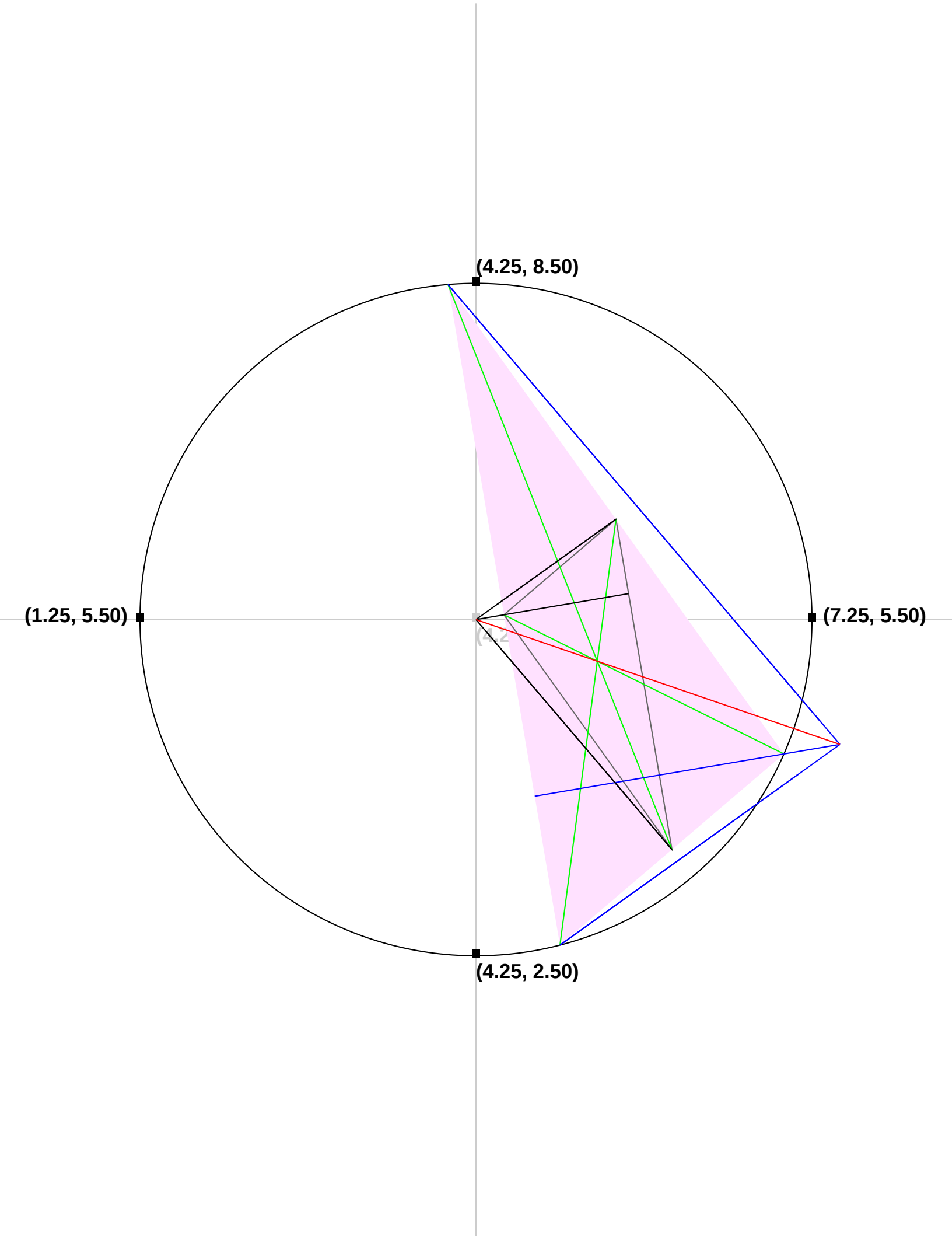

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

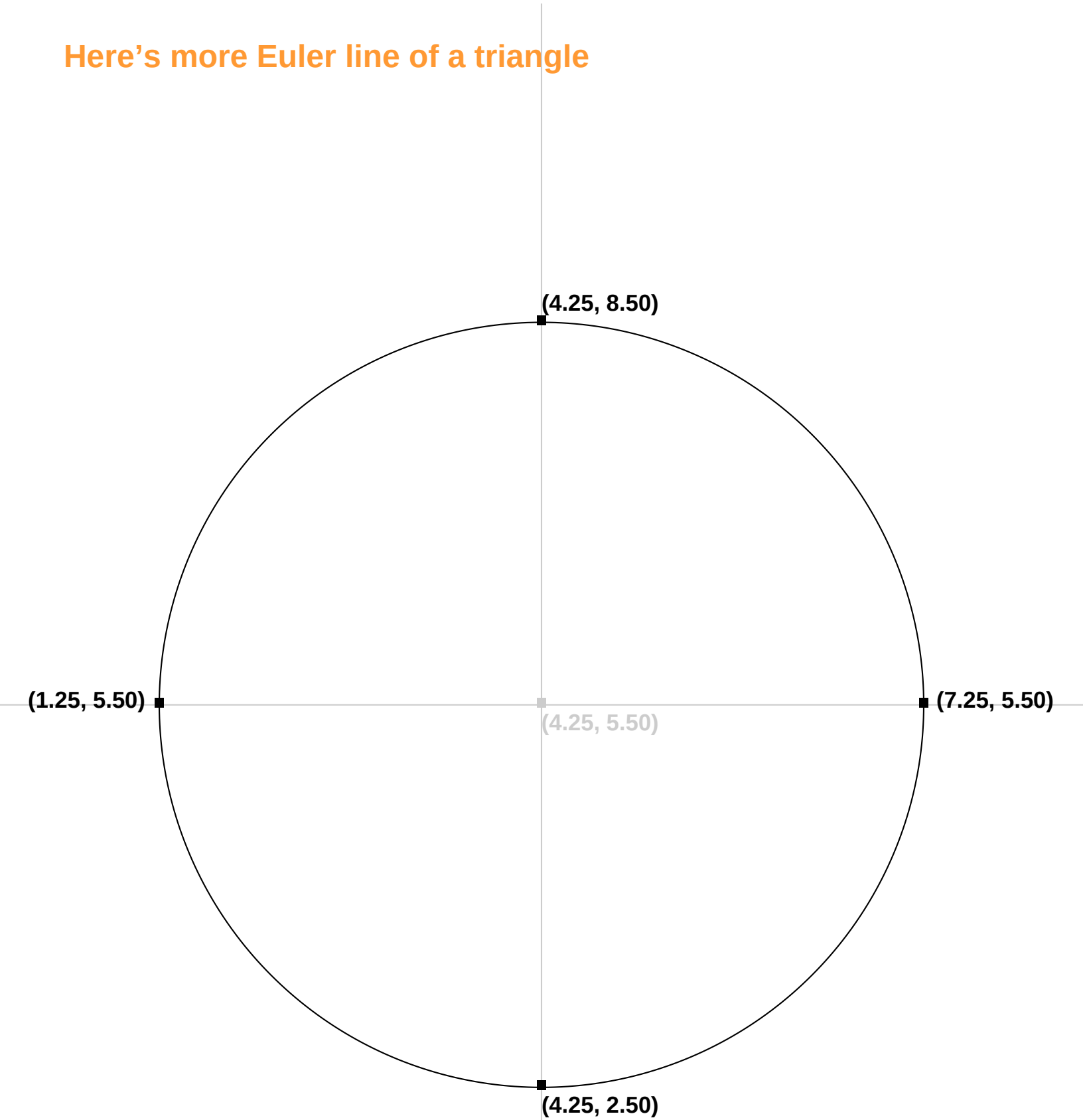

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

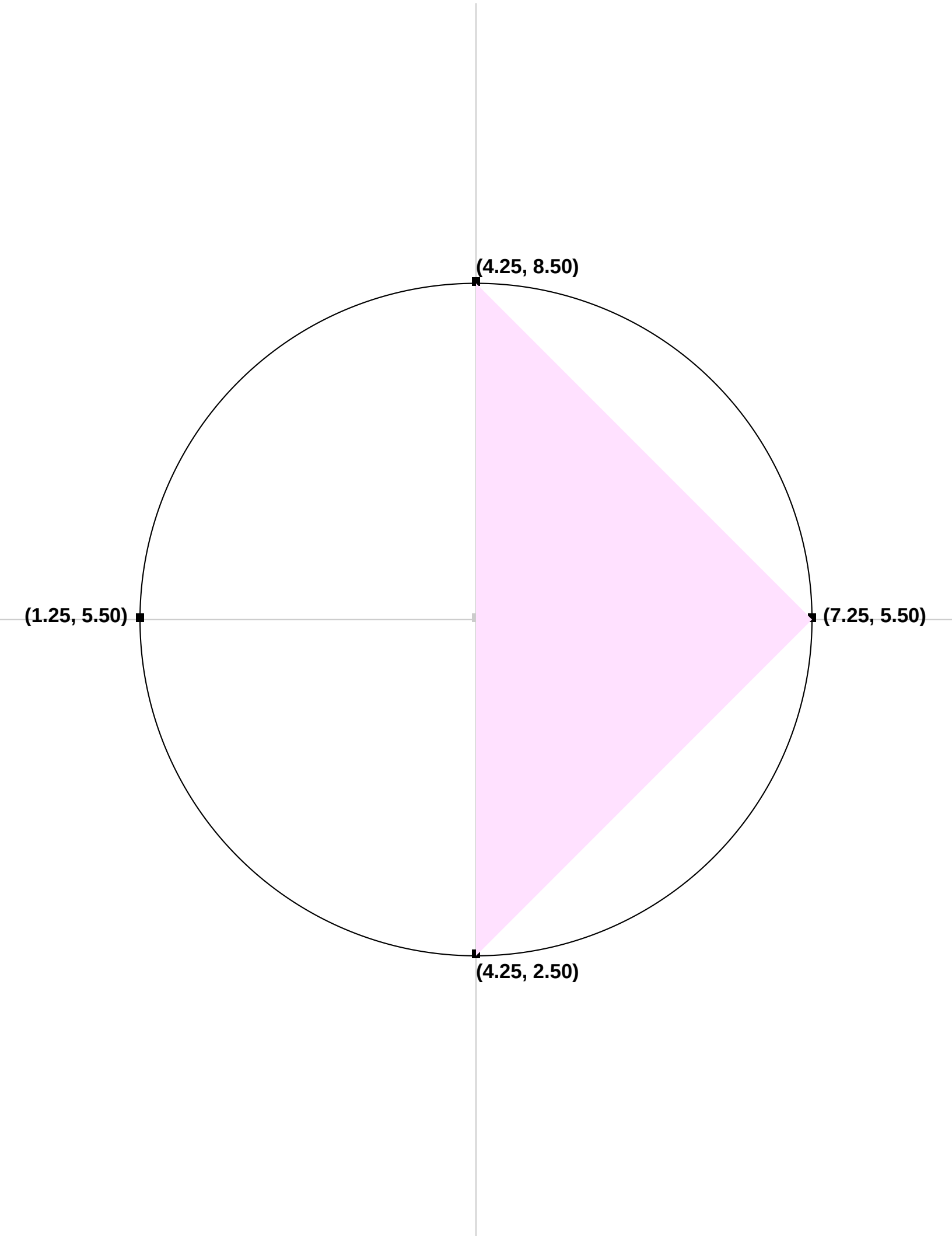

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

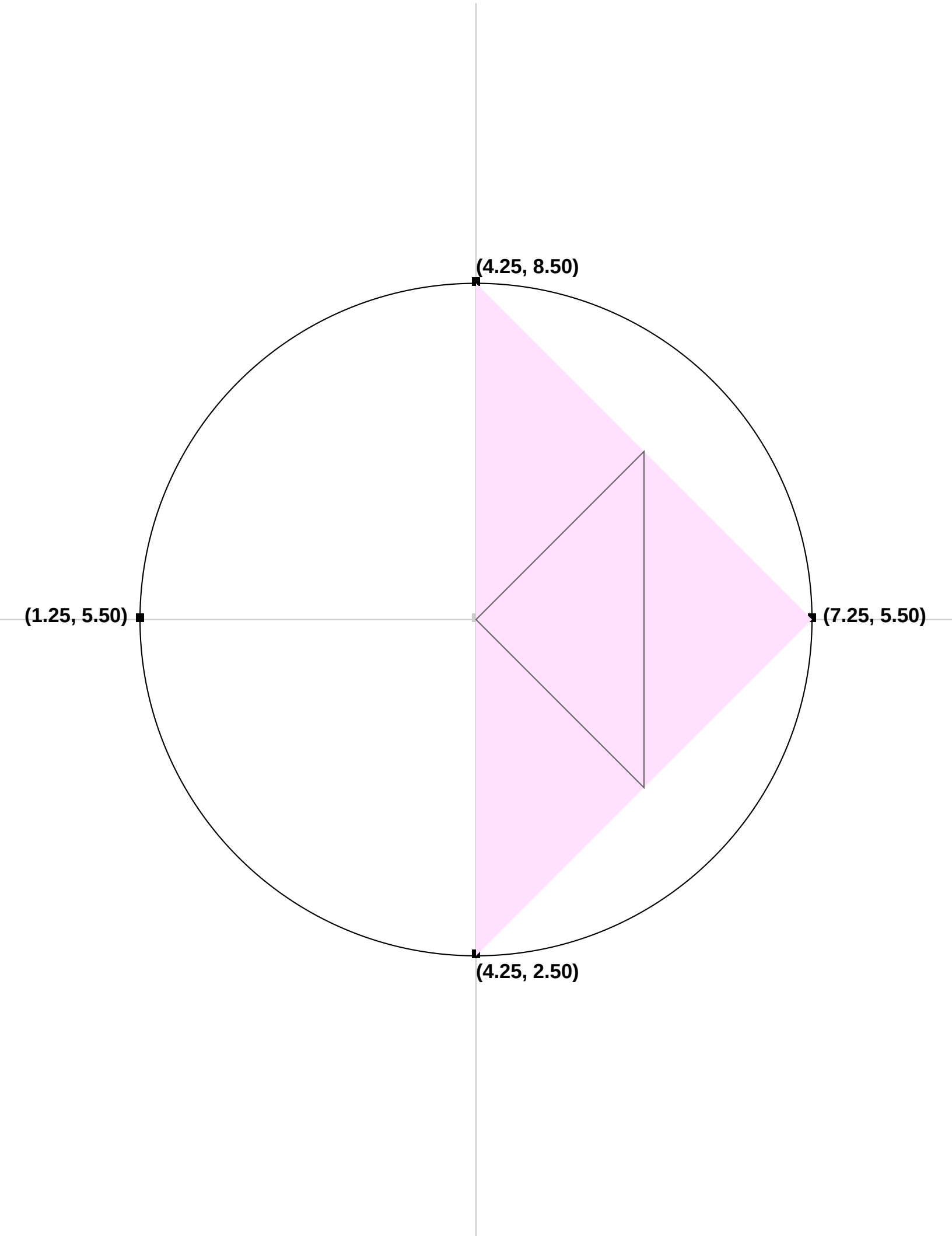

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

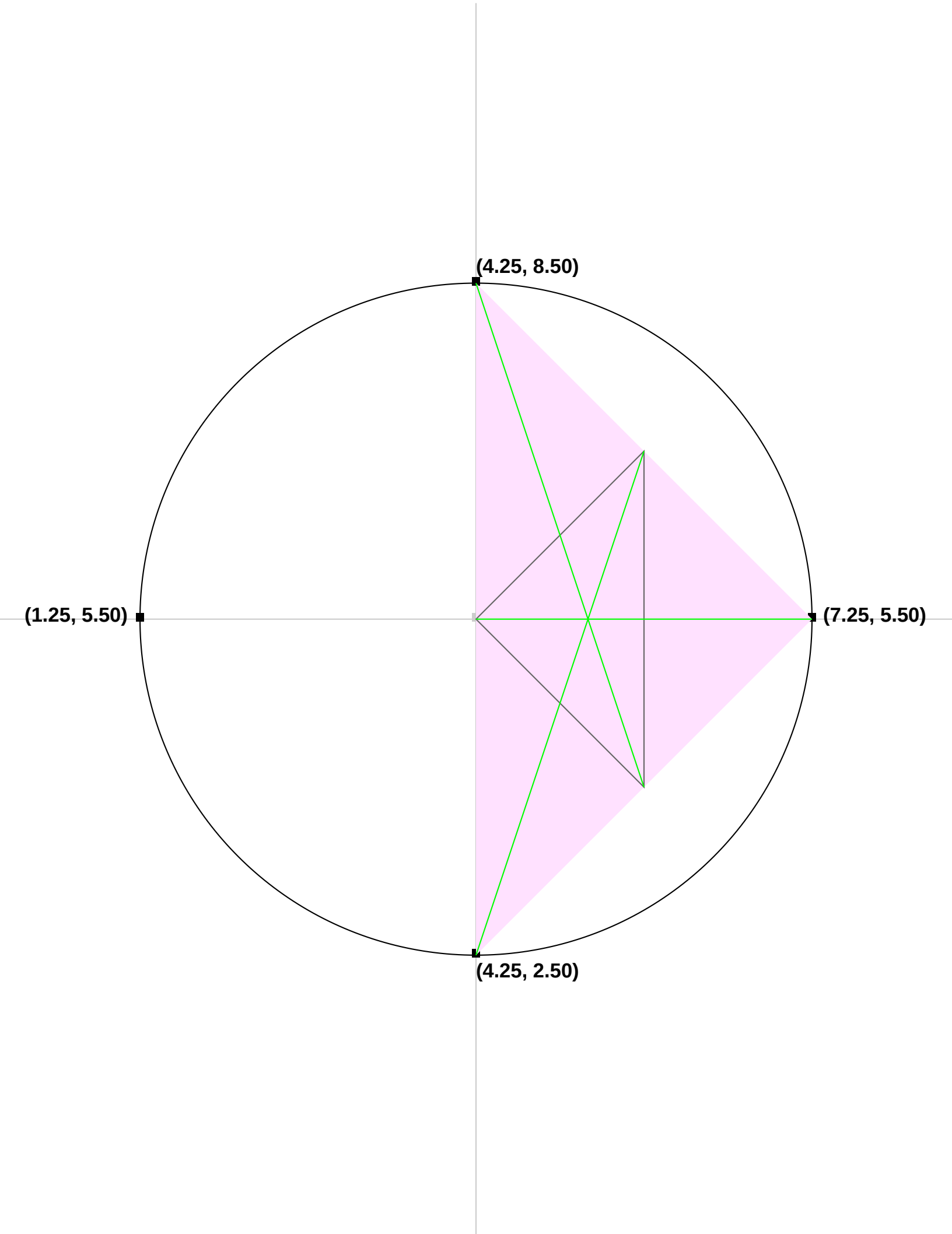

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

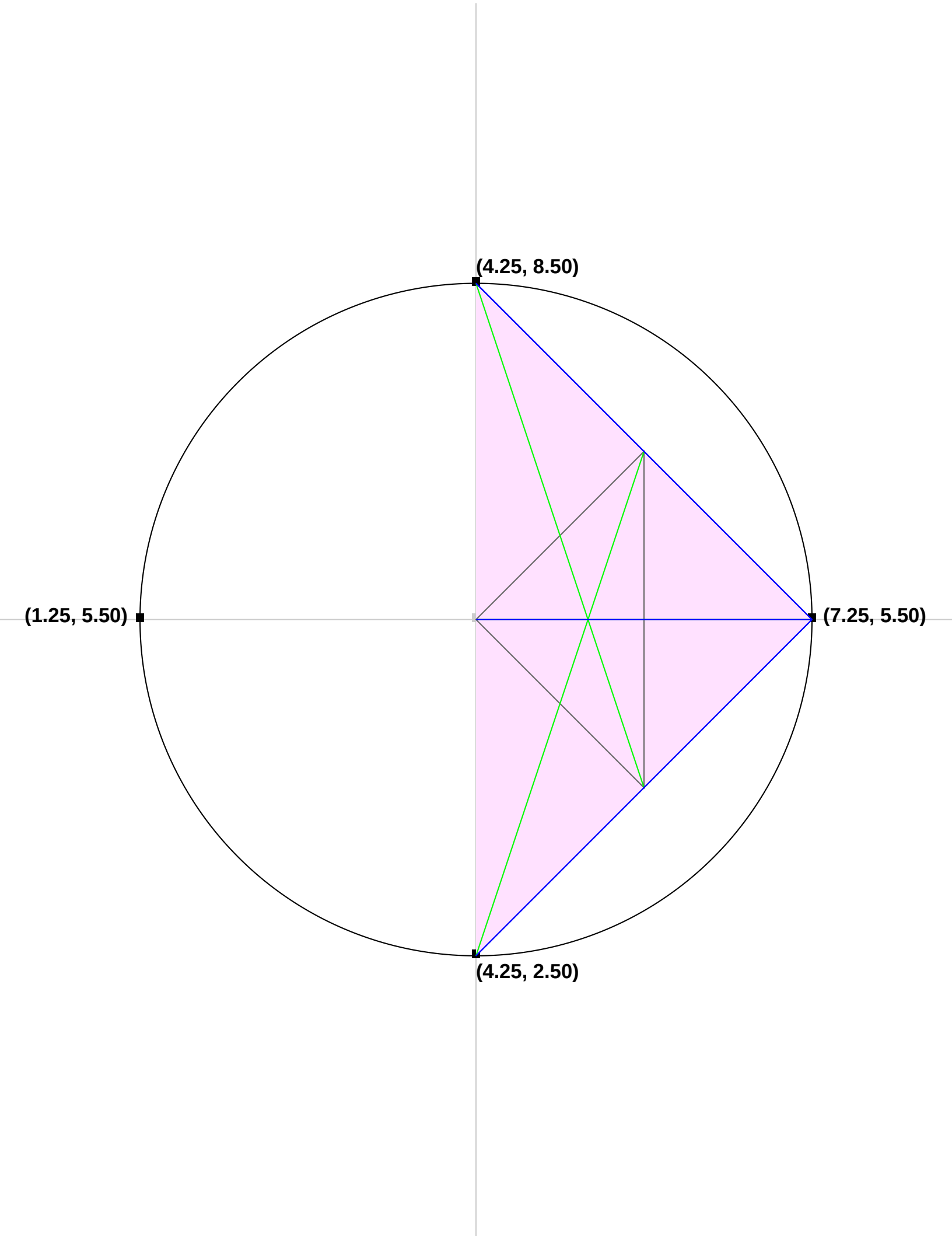
Here’s more Euler line of a triangle

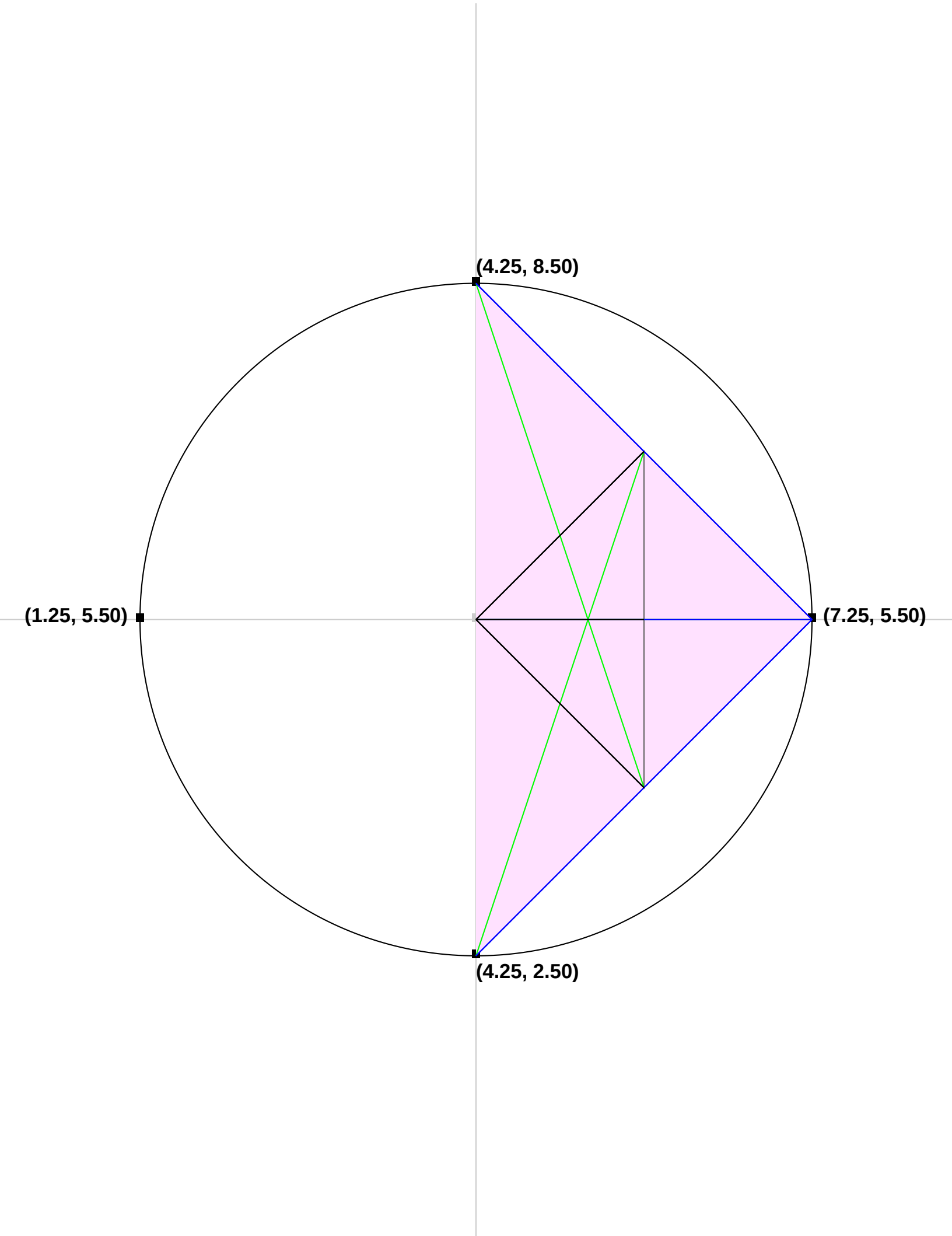


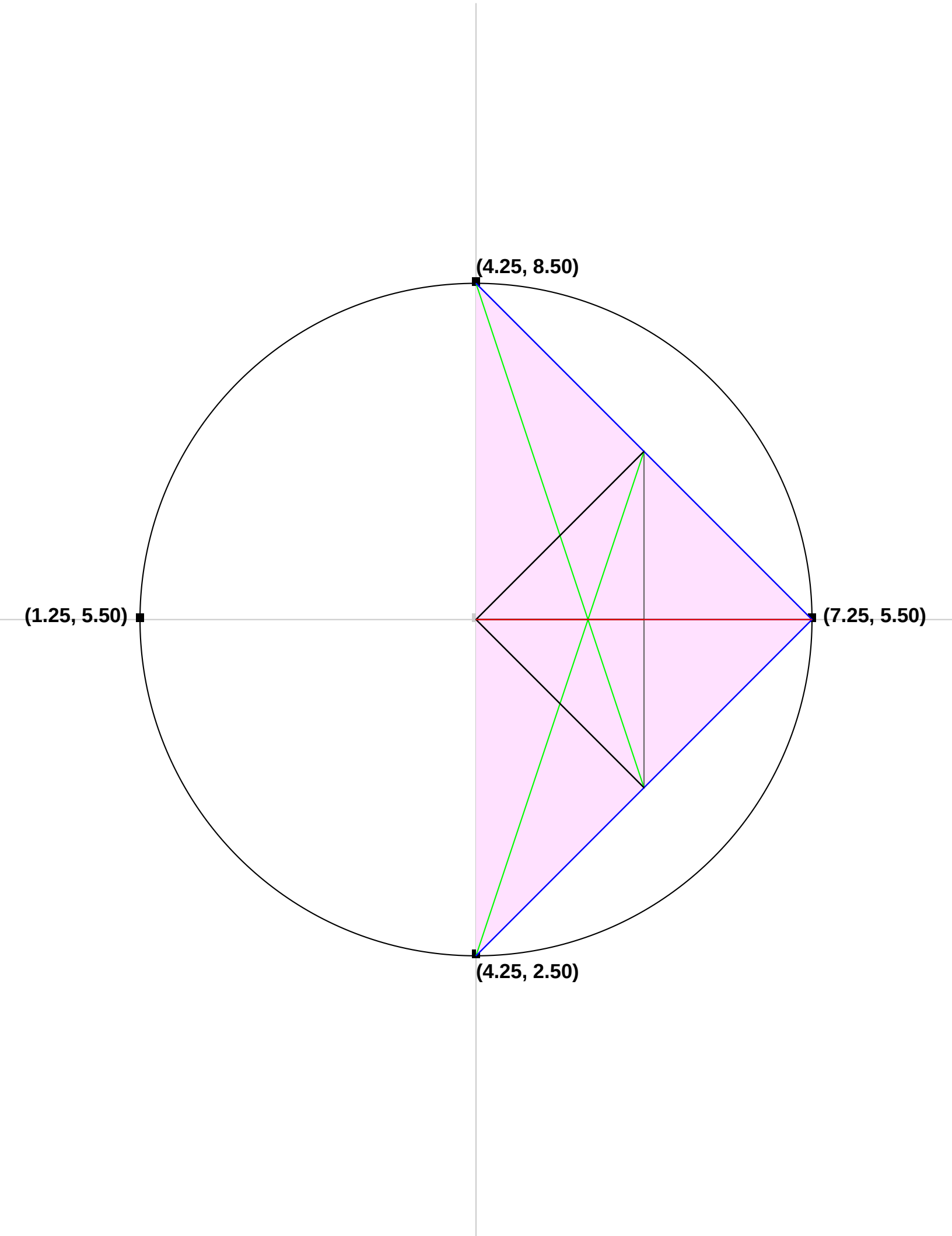

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

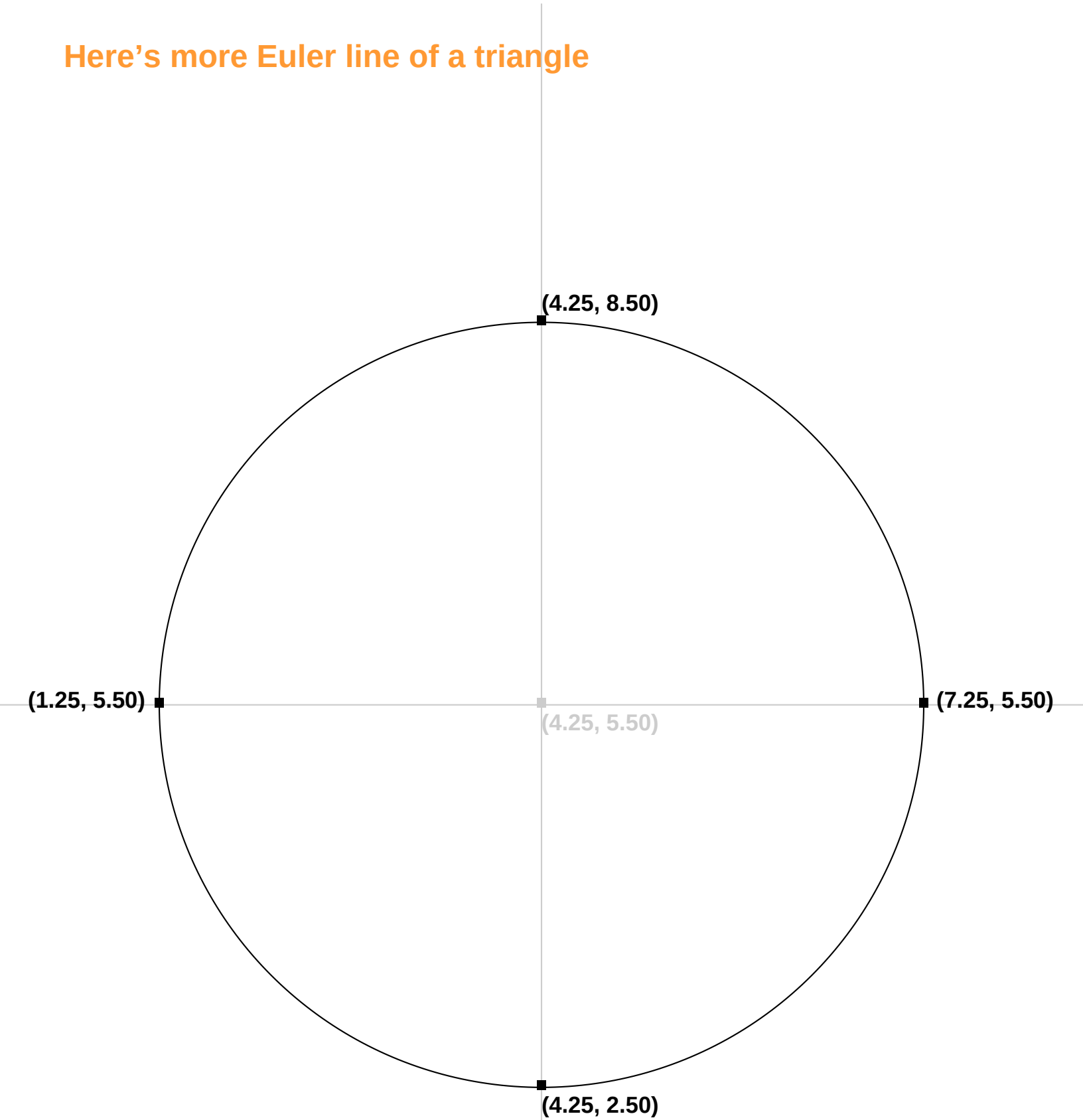

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

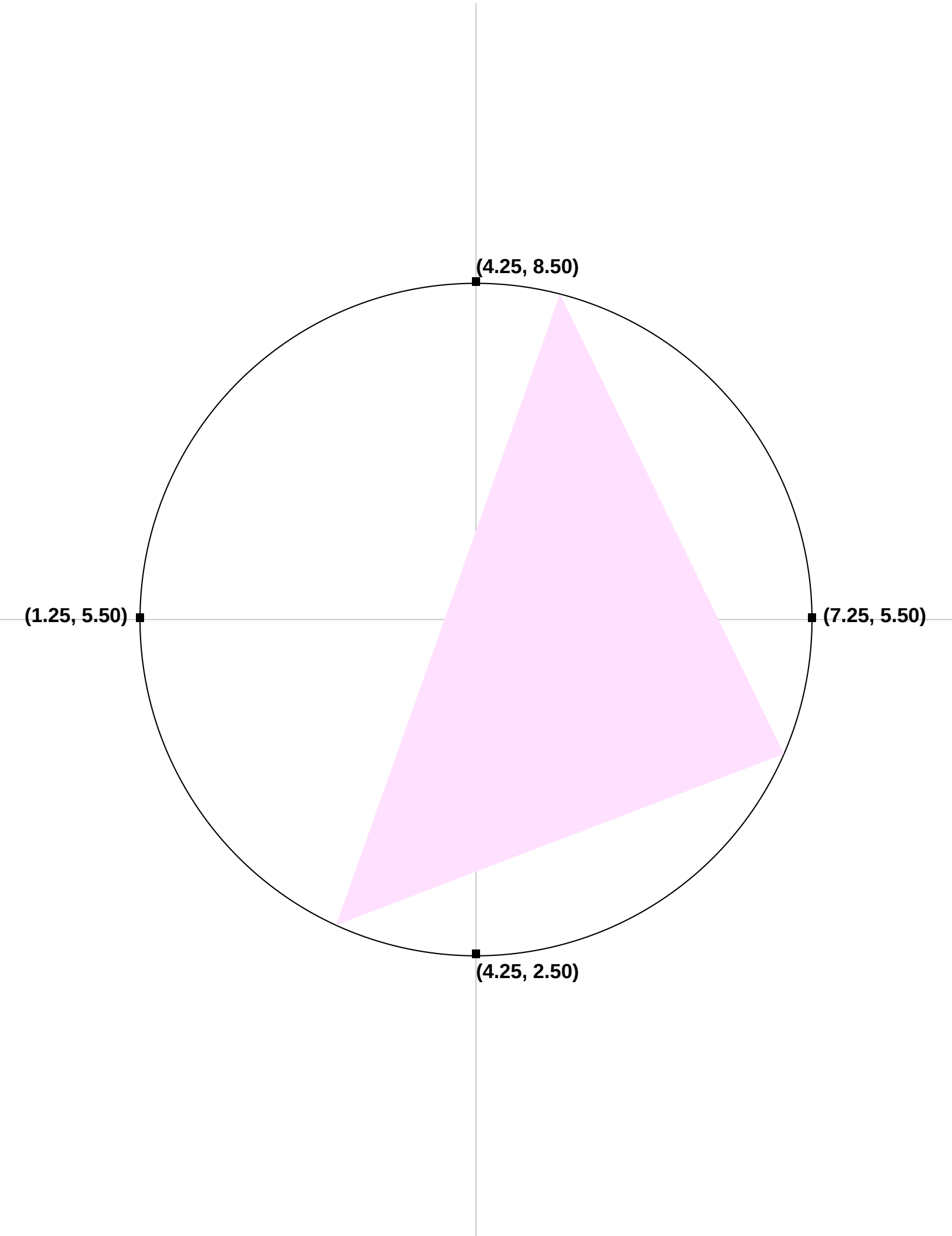

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

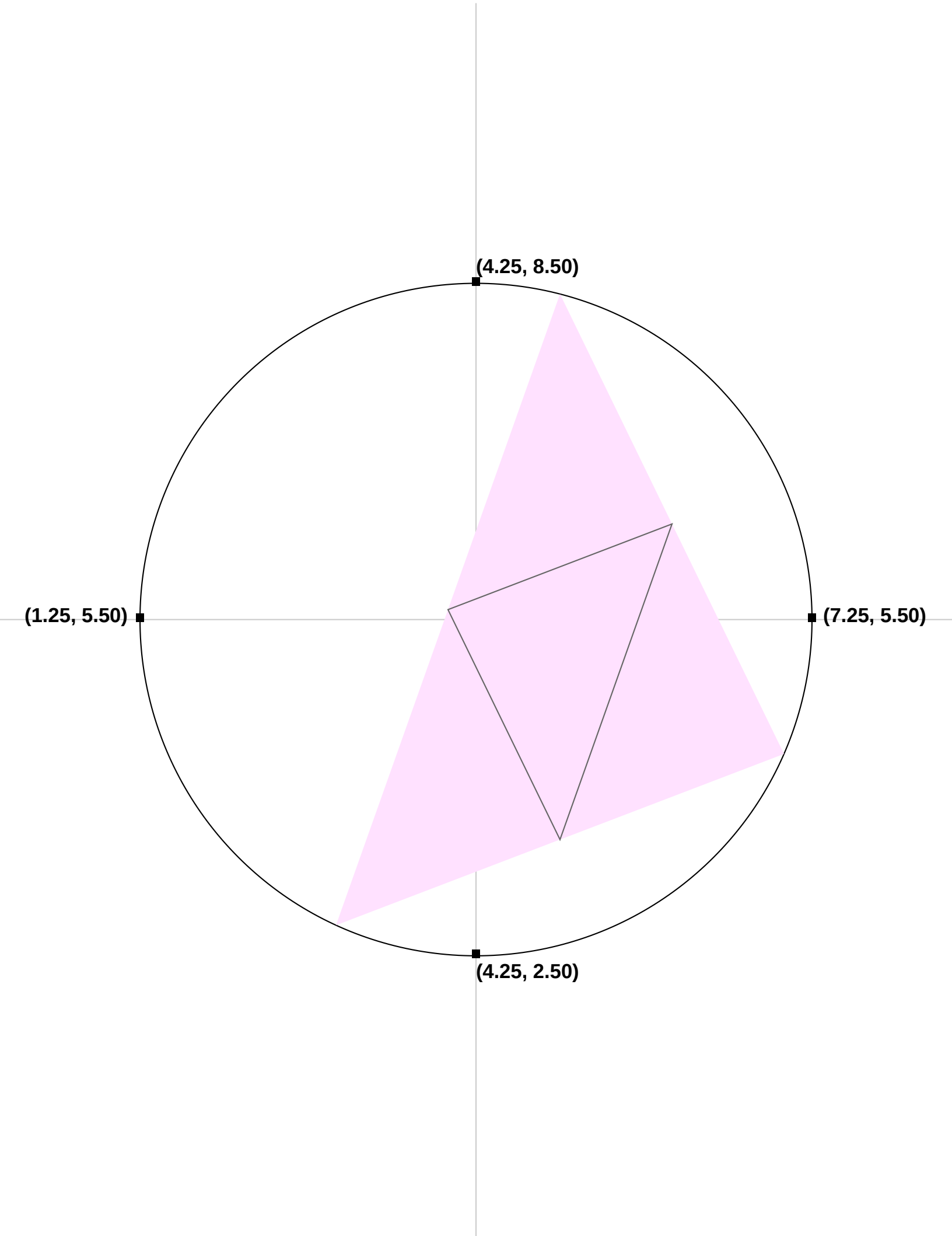

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

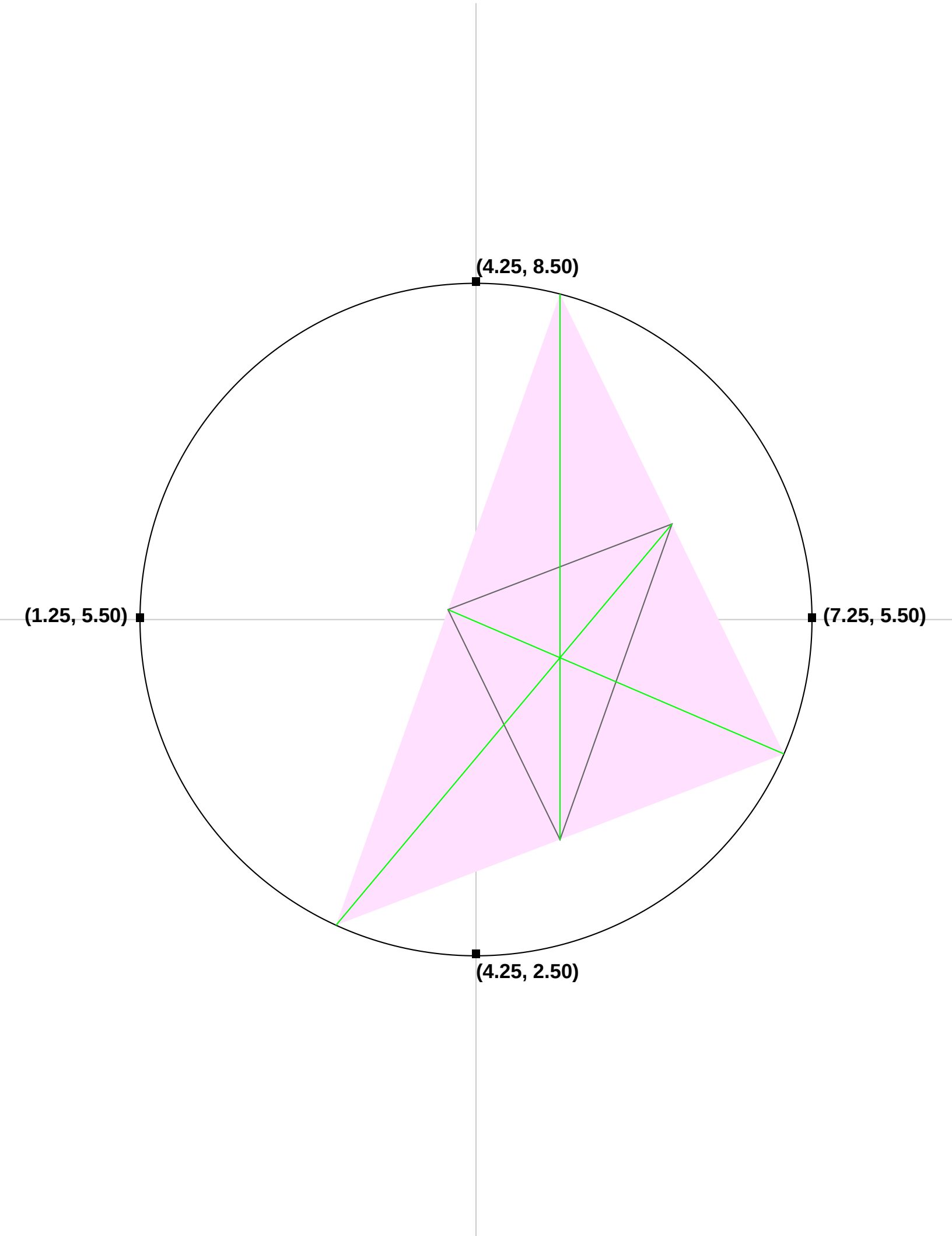

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

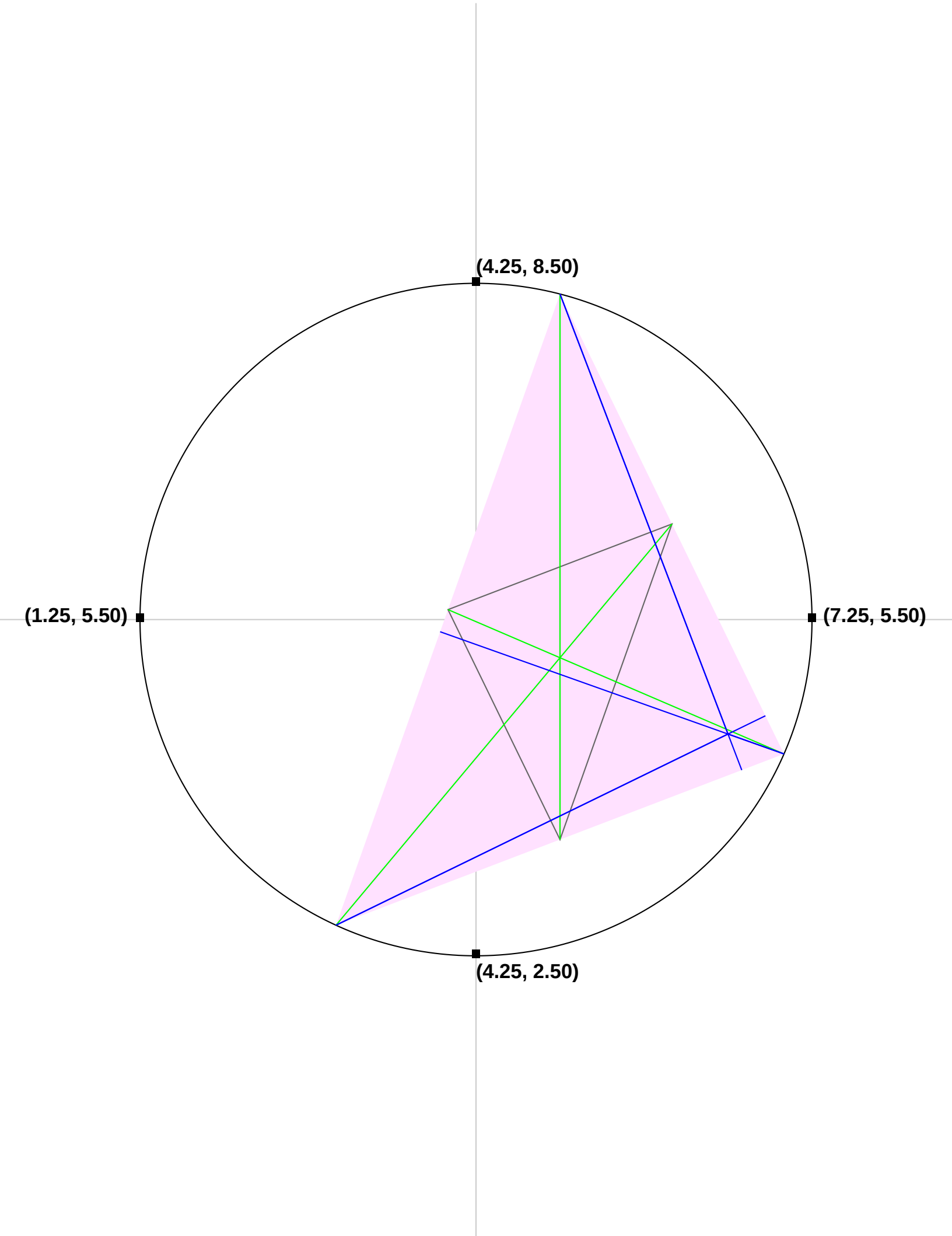
Here’s more Euler line of a triangle

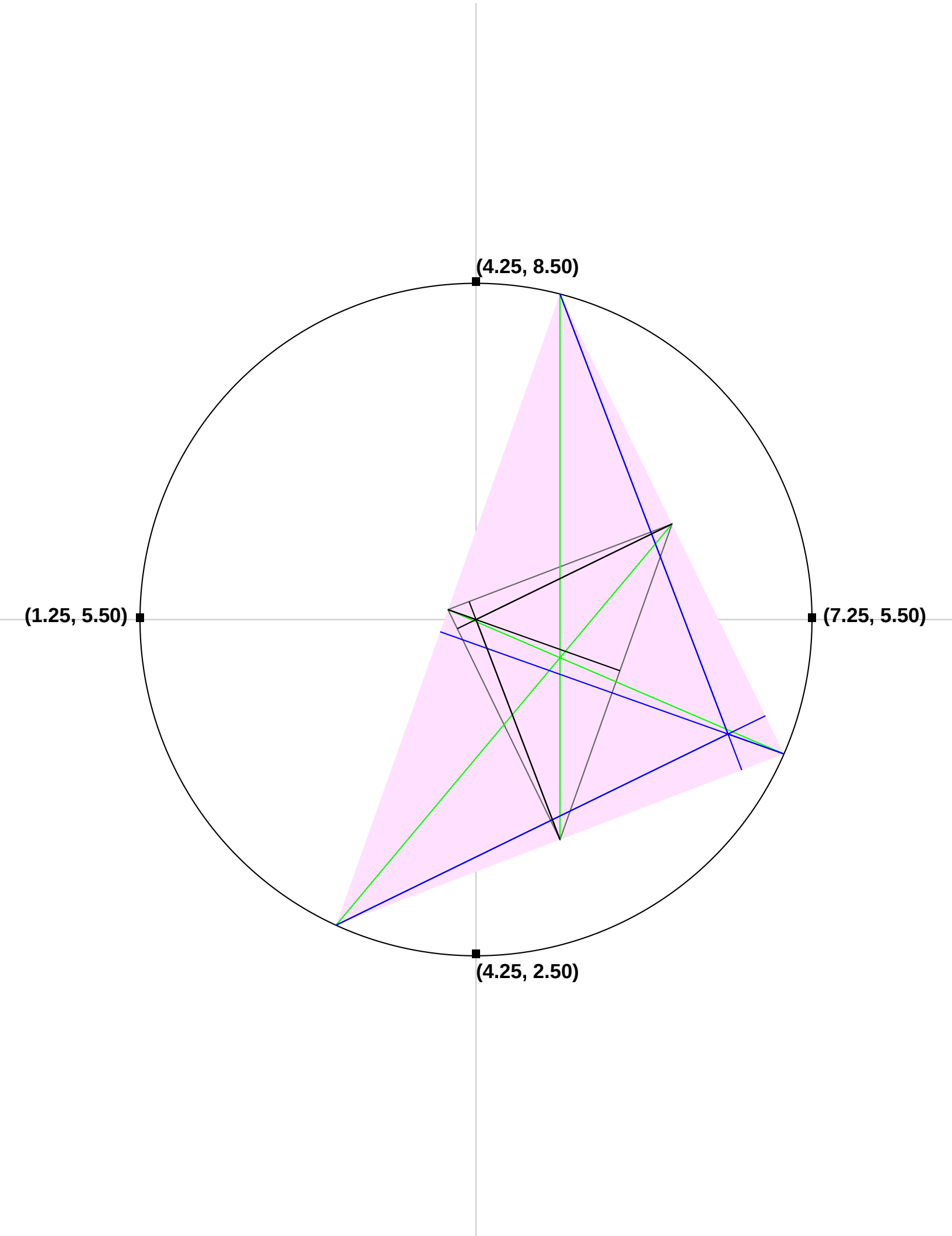


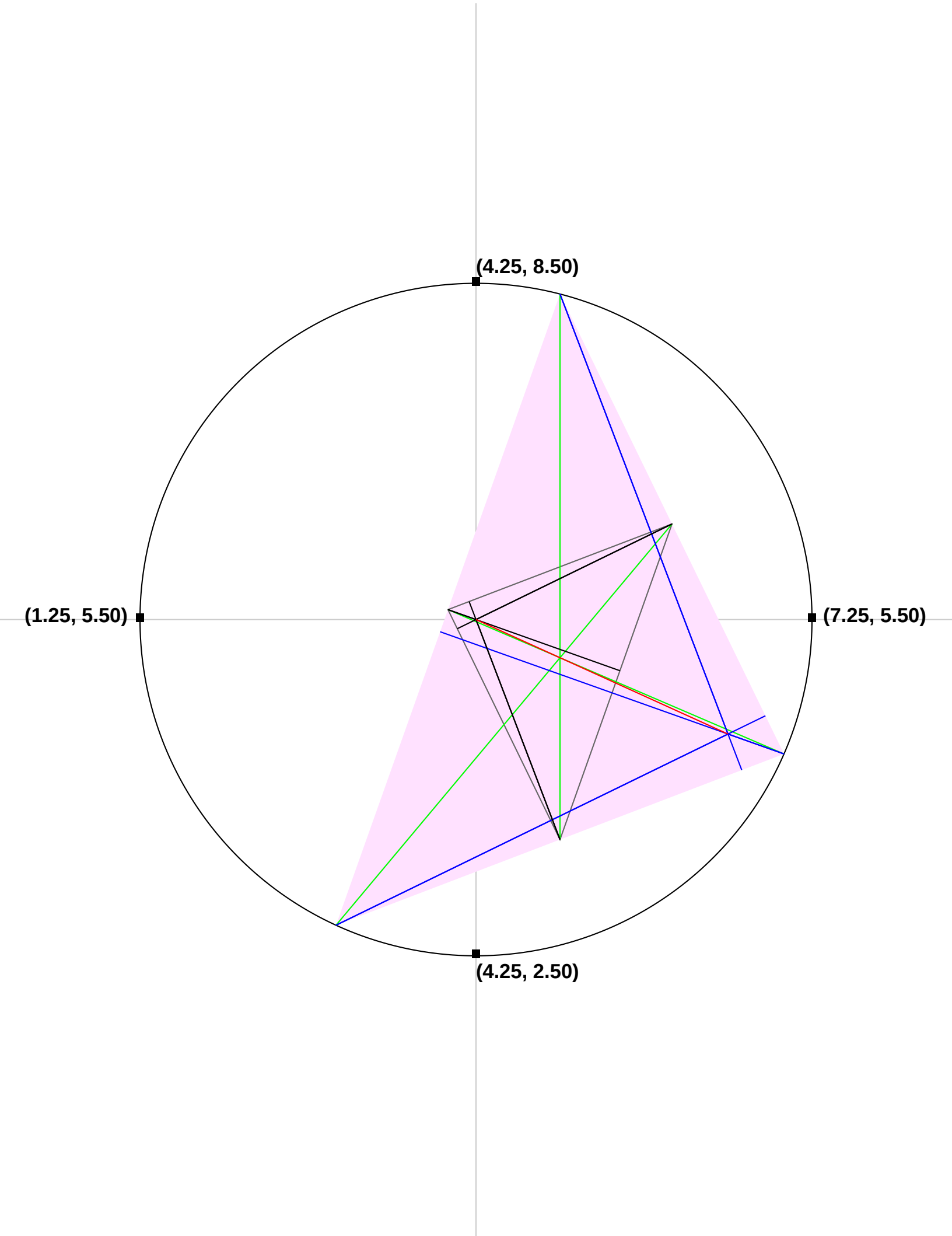

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

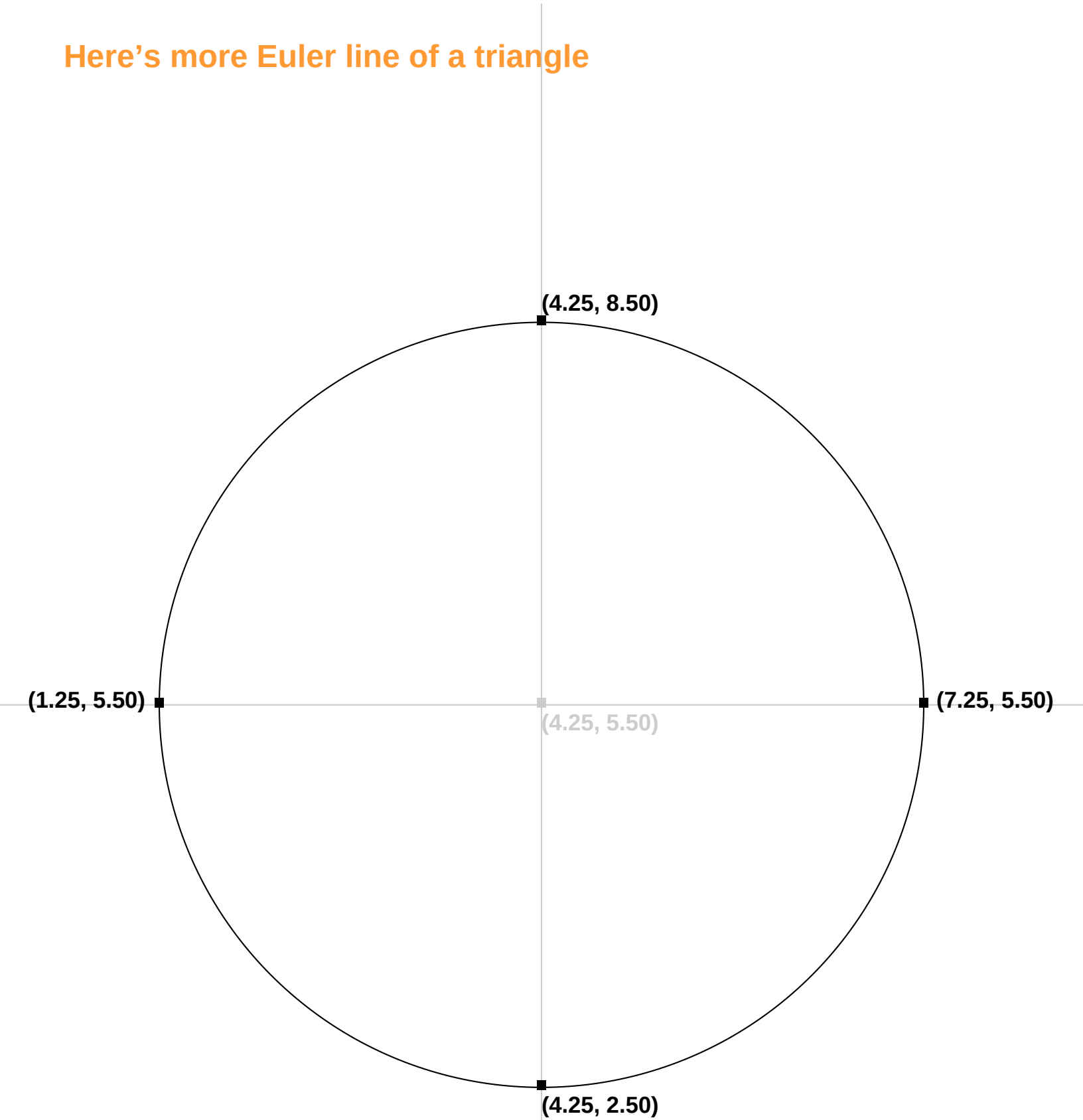

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

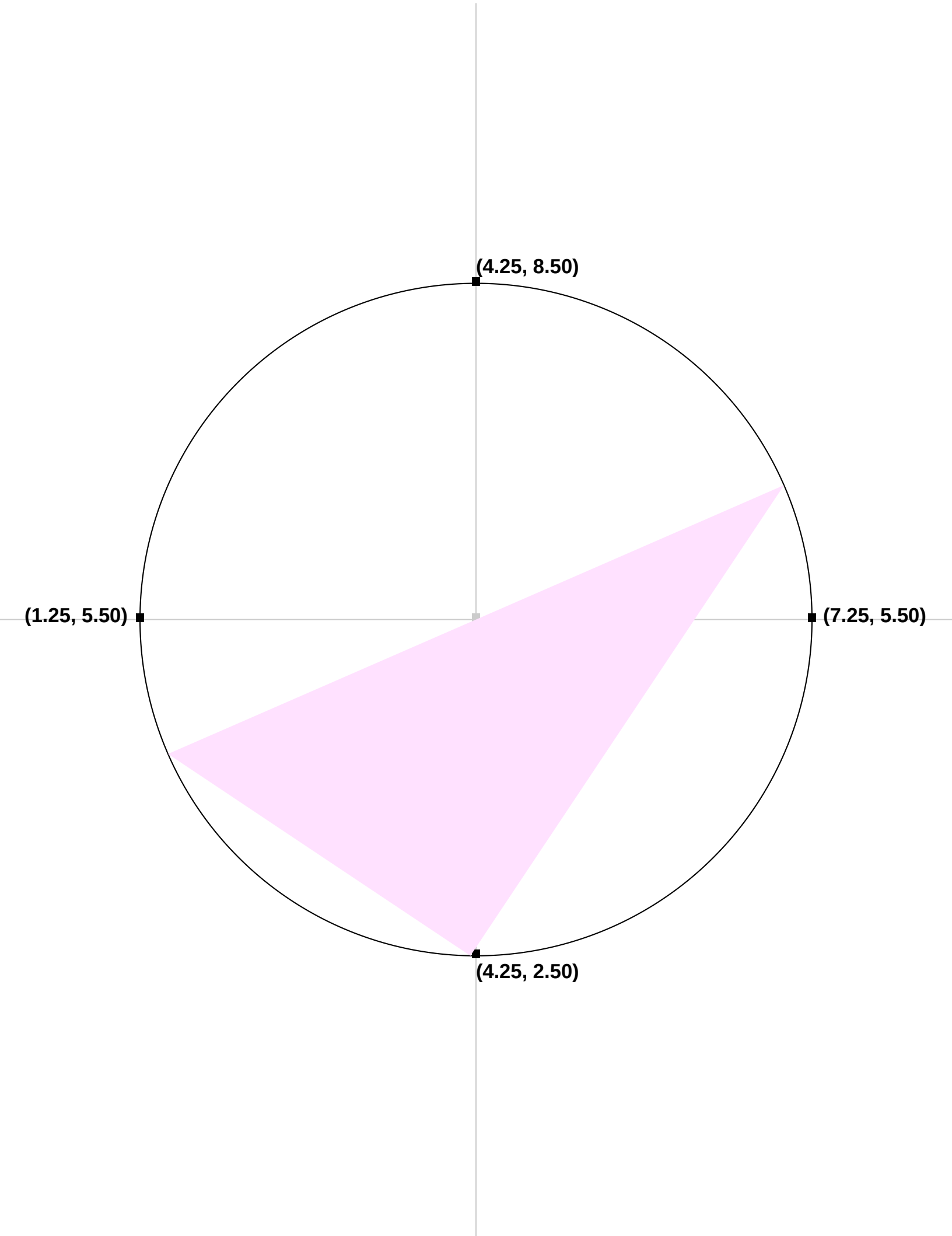

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

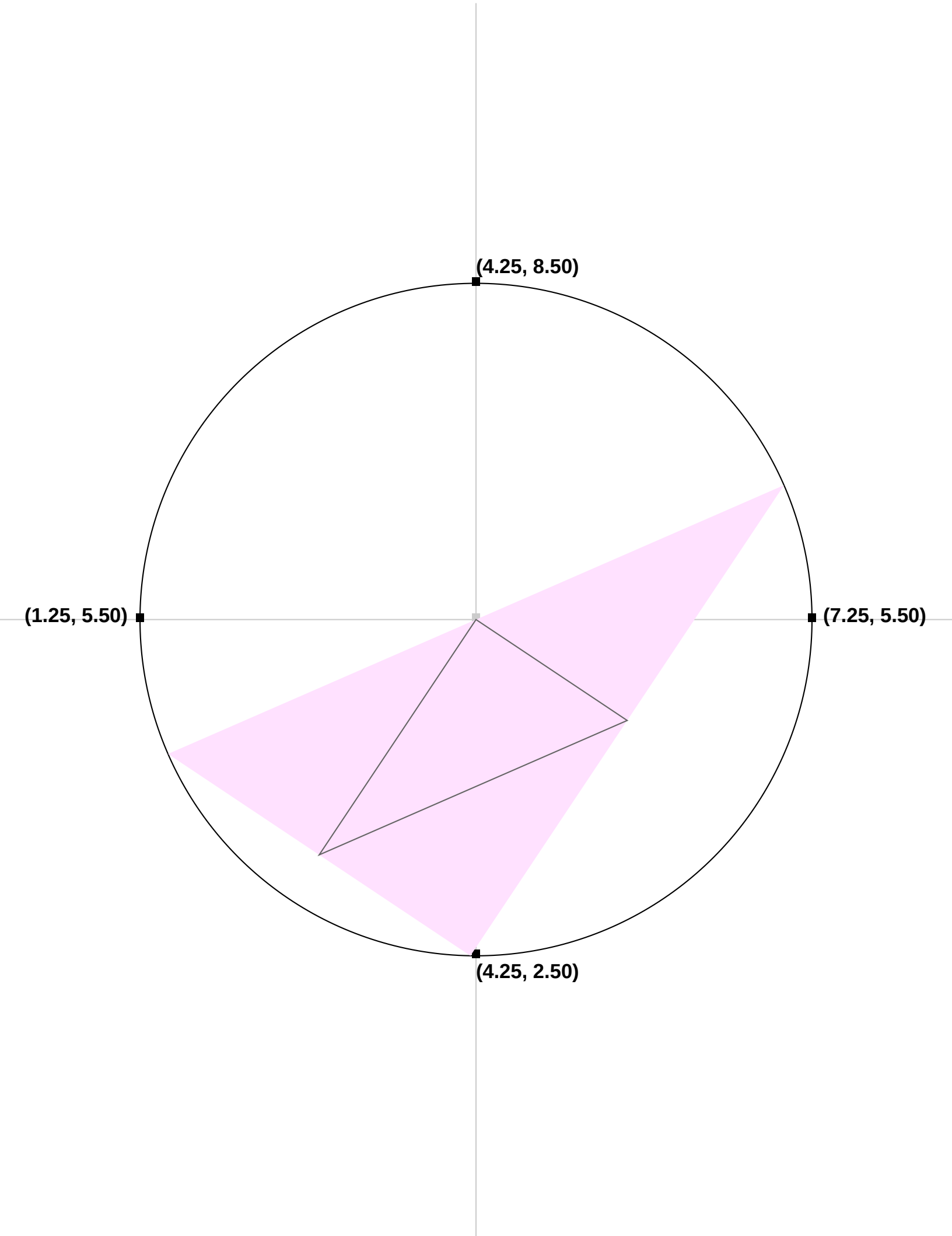

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

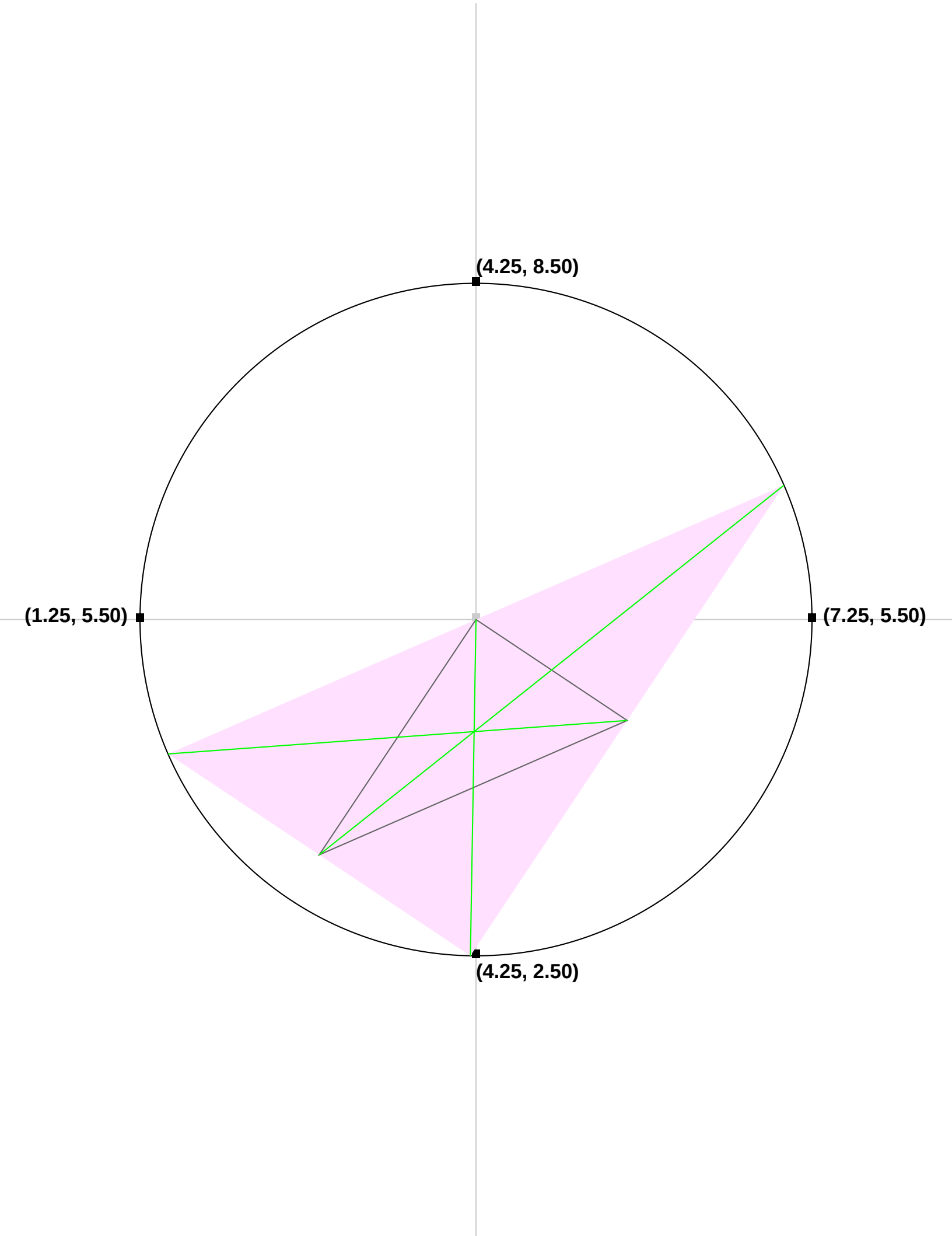

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

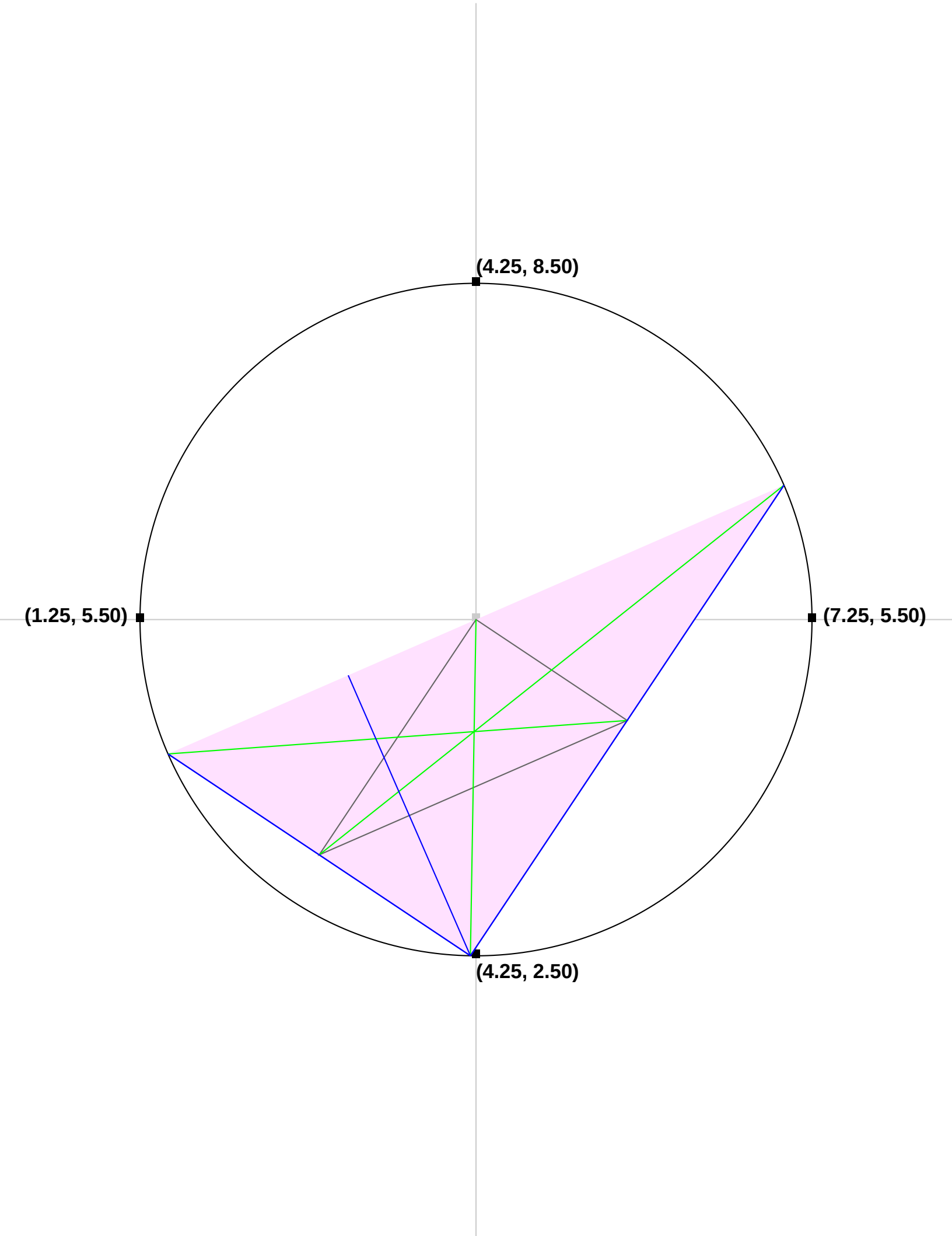
Here’s more Euler line of a triangle

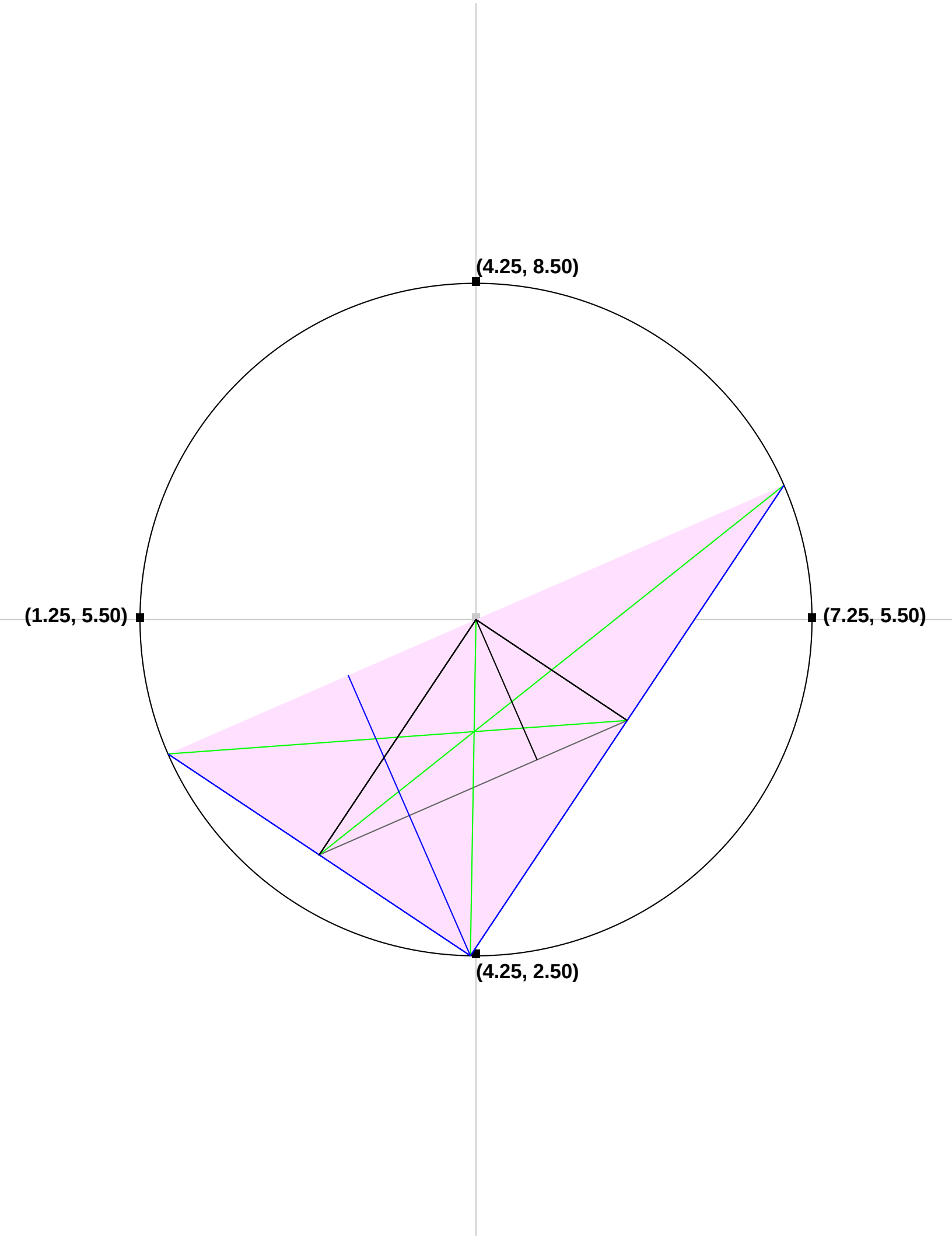


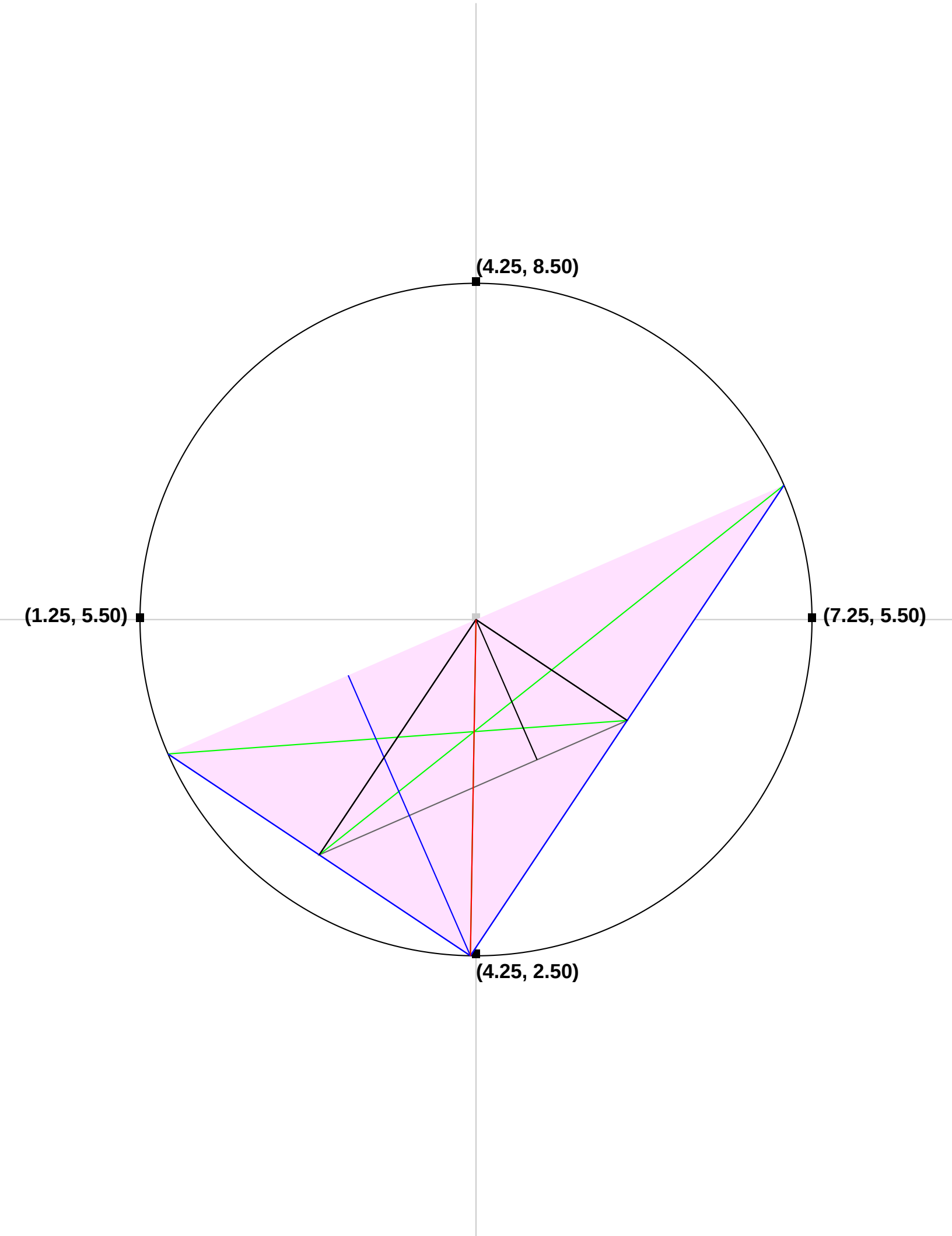

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

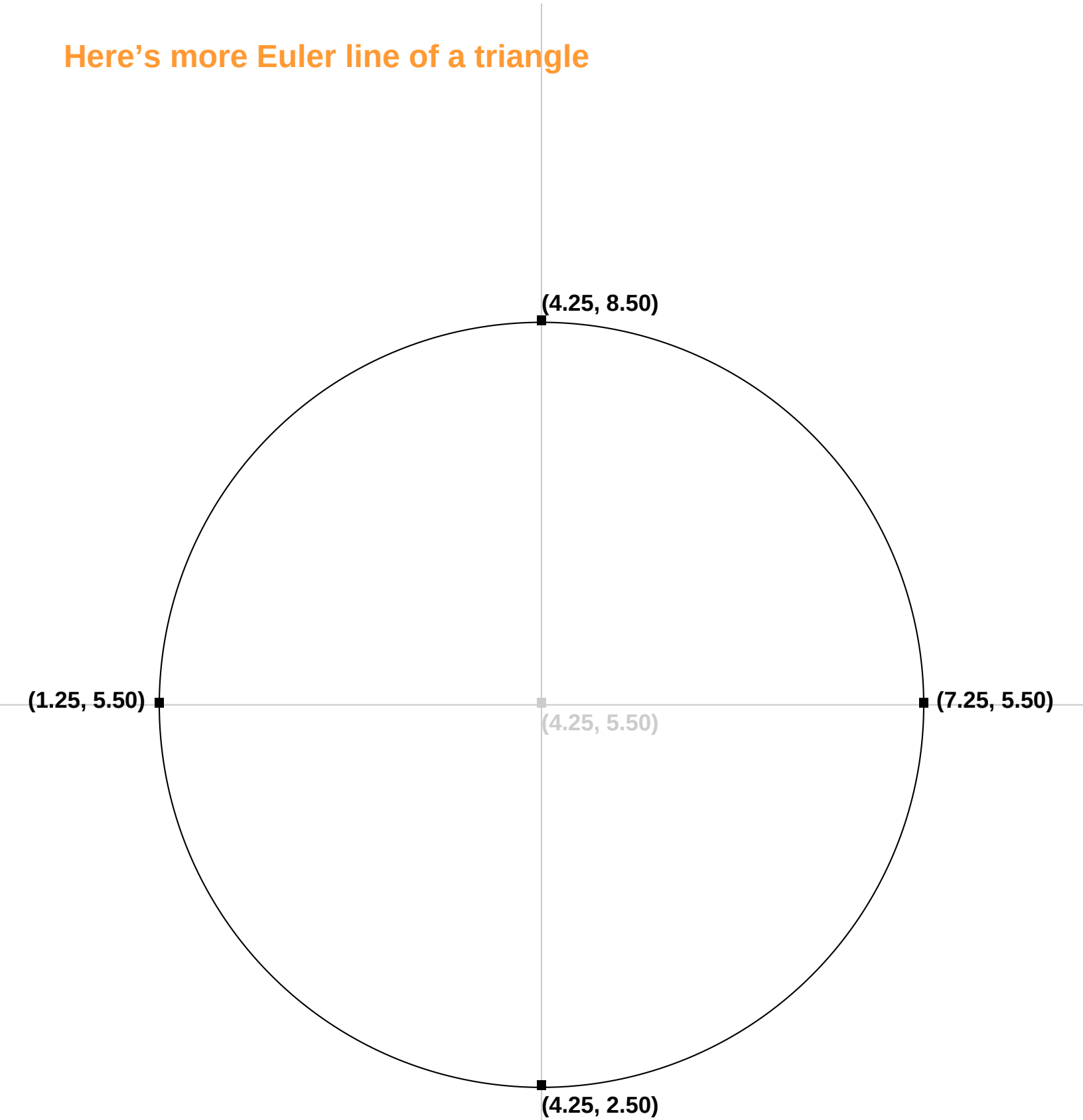

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

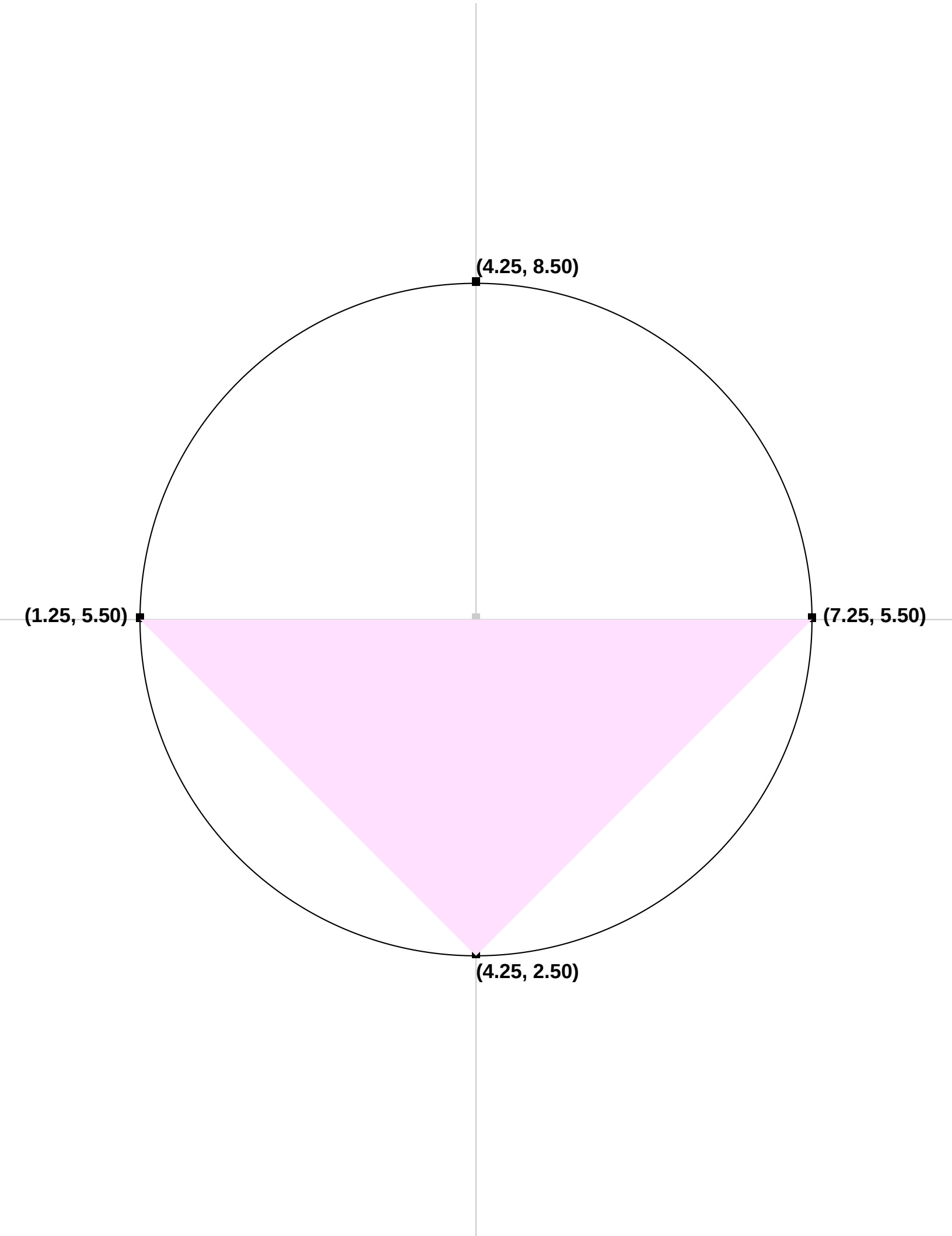

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

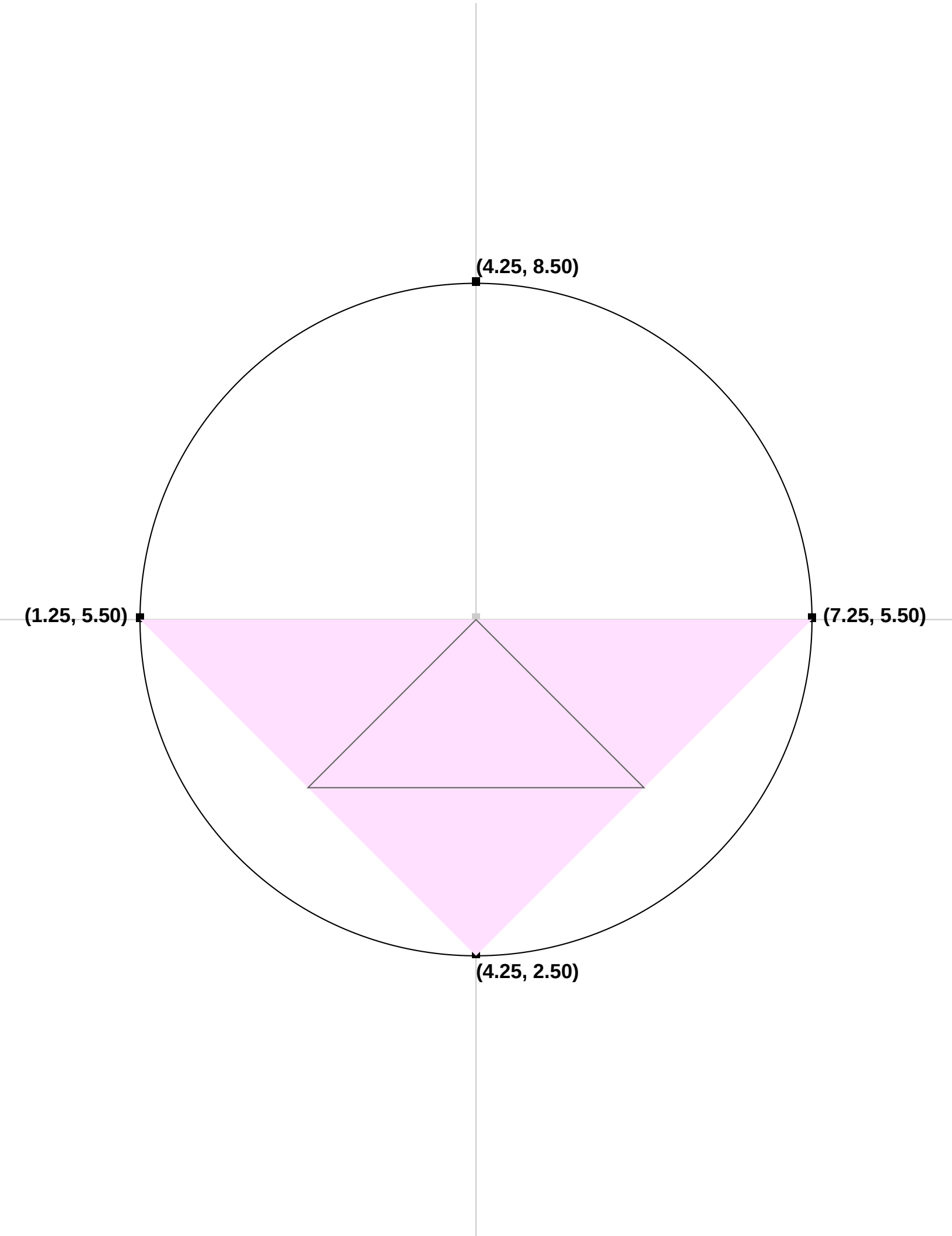

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

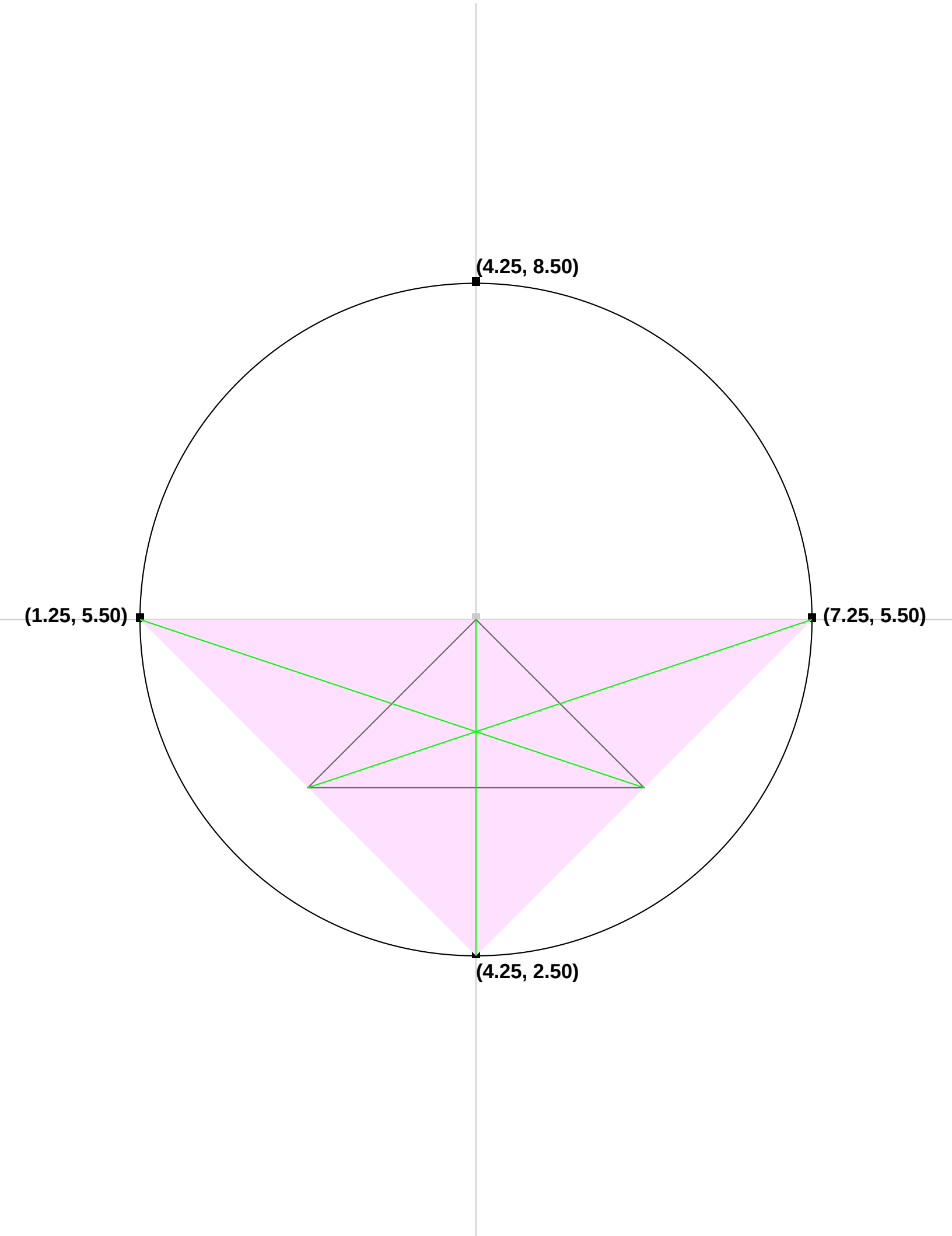

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

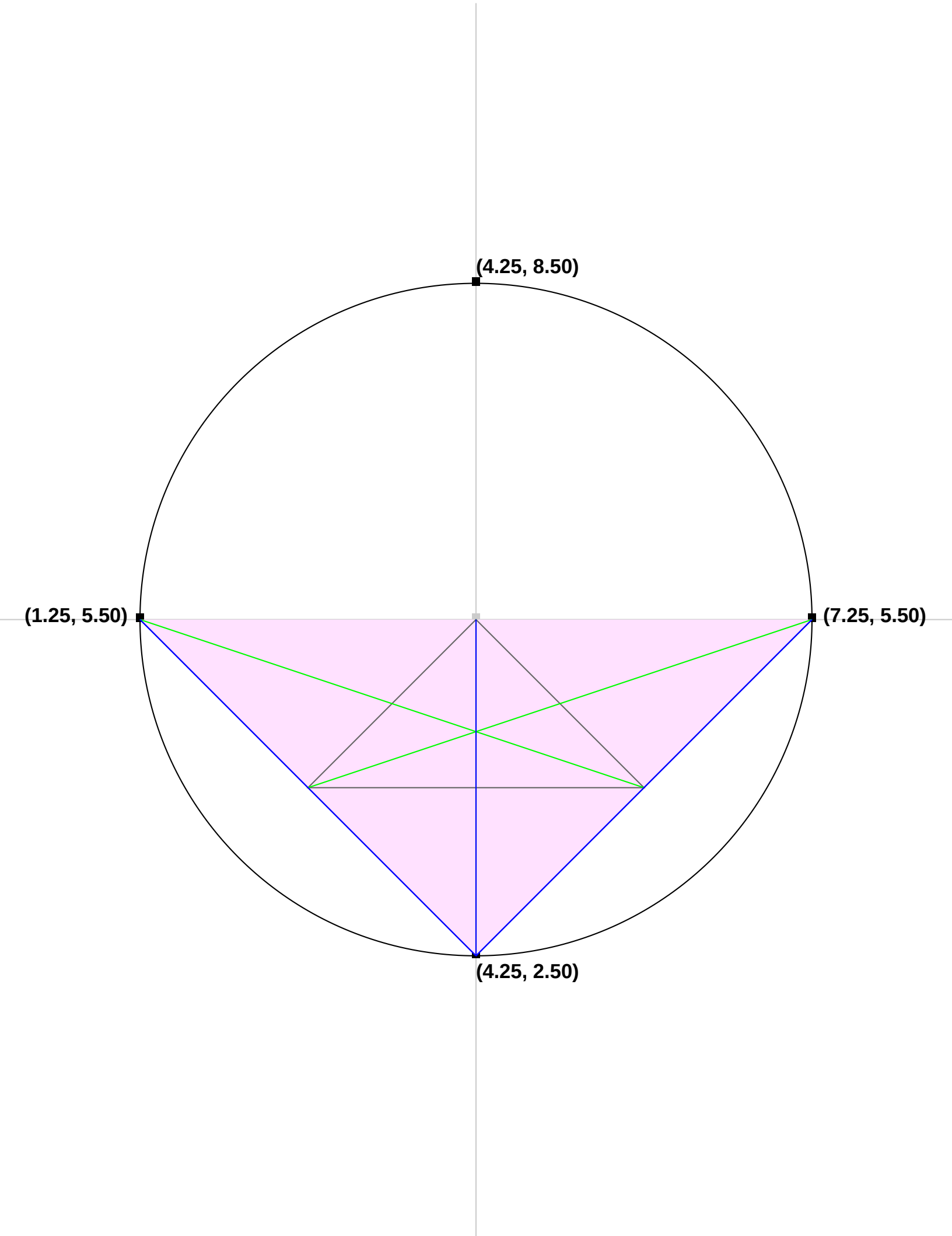
Here’s more Euler line of a triangle

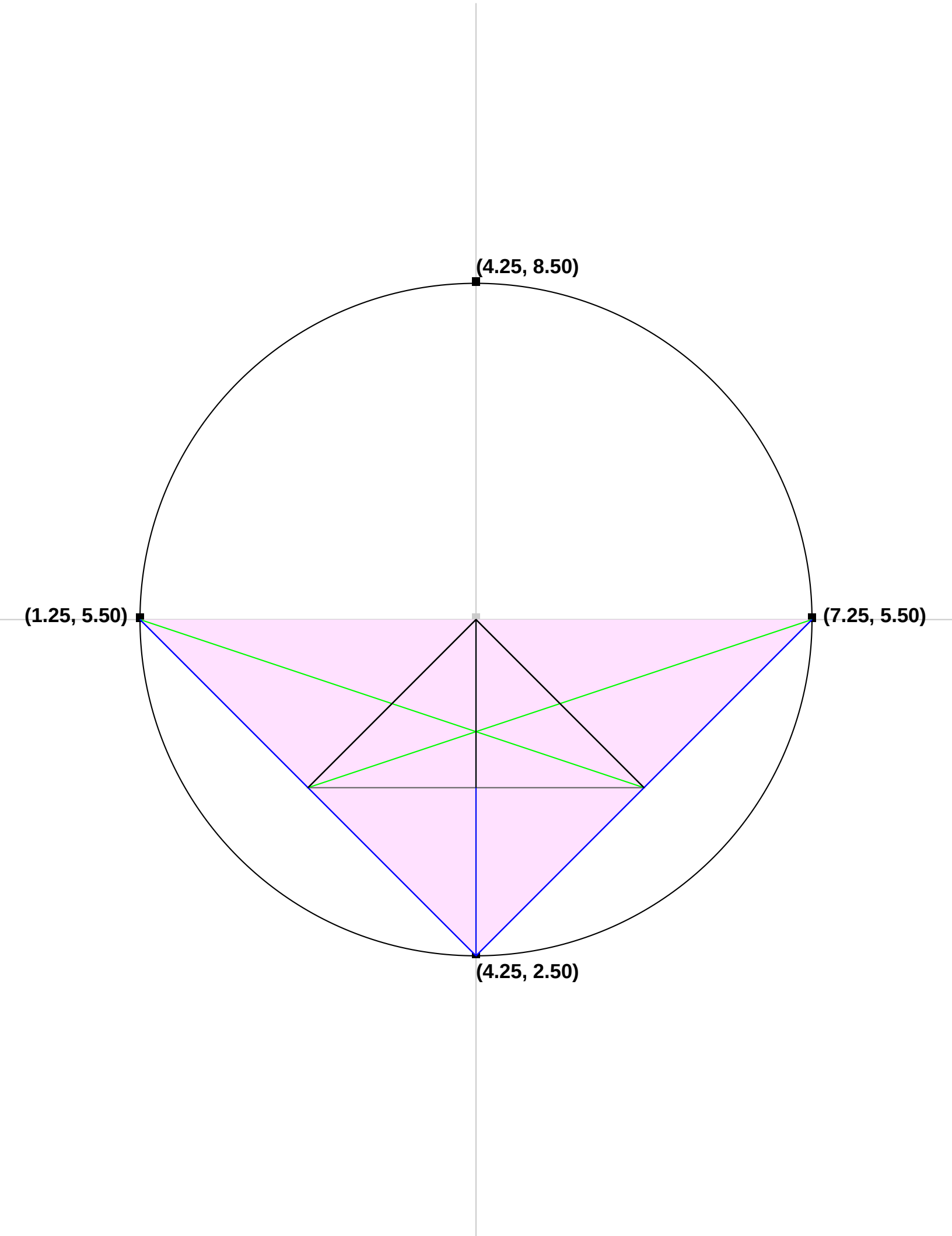


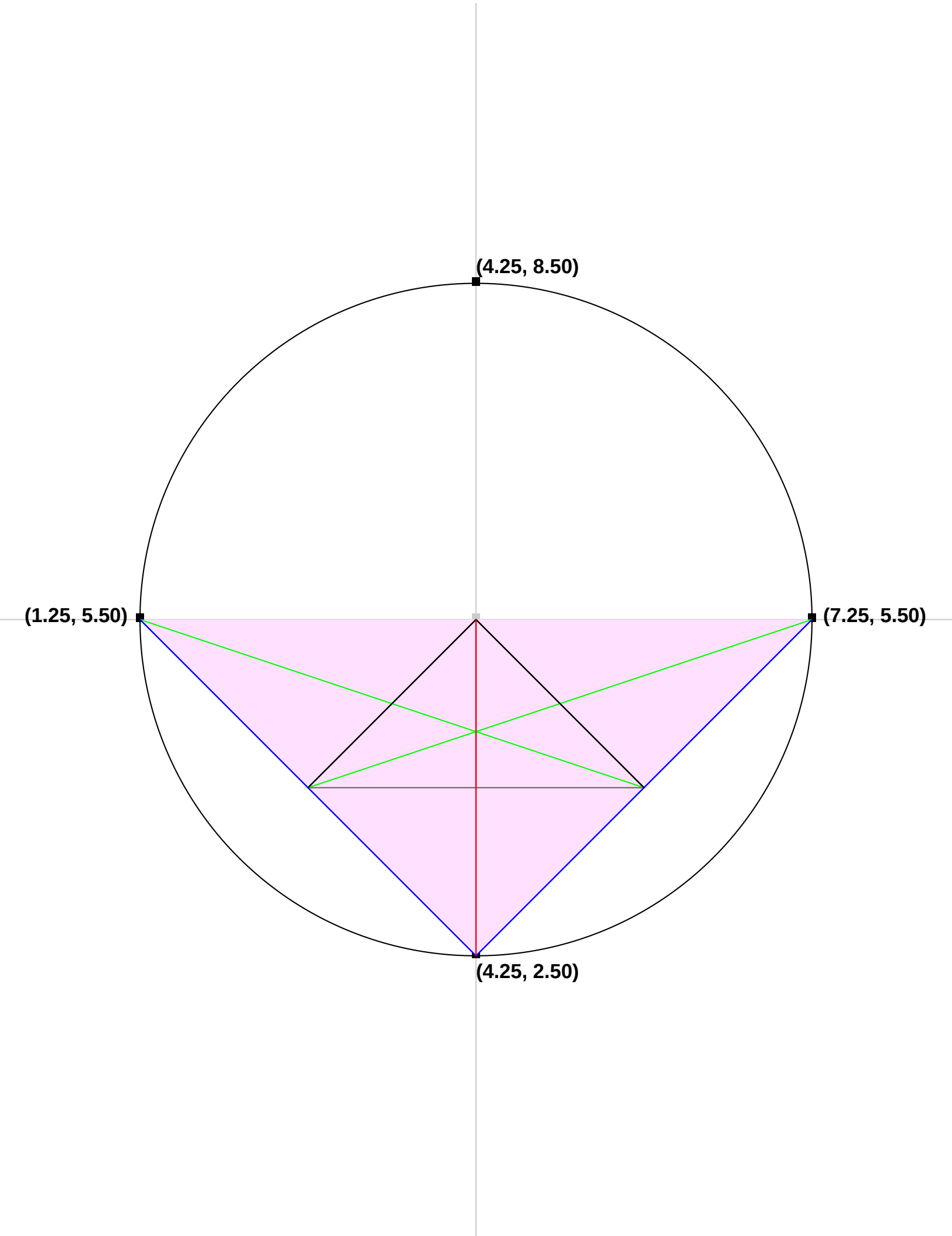

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

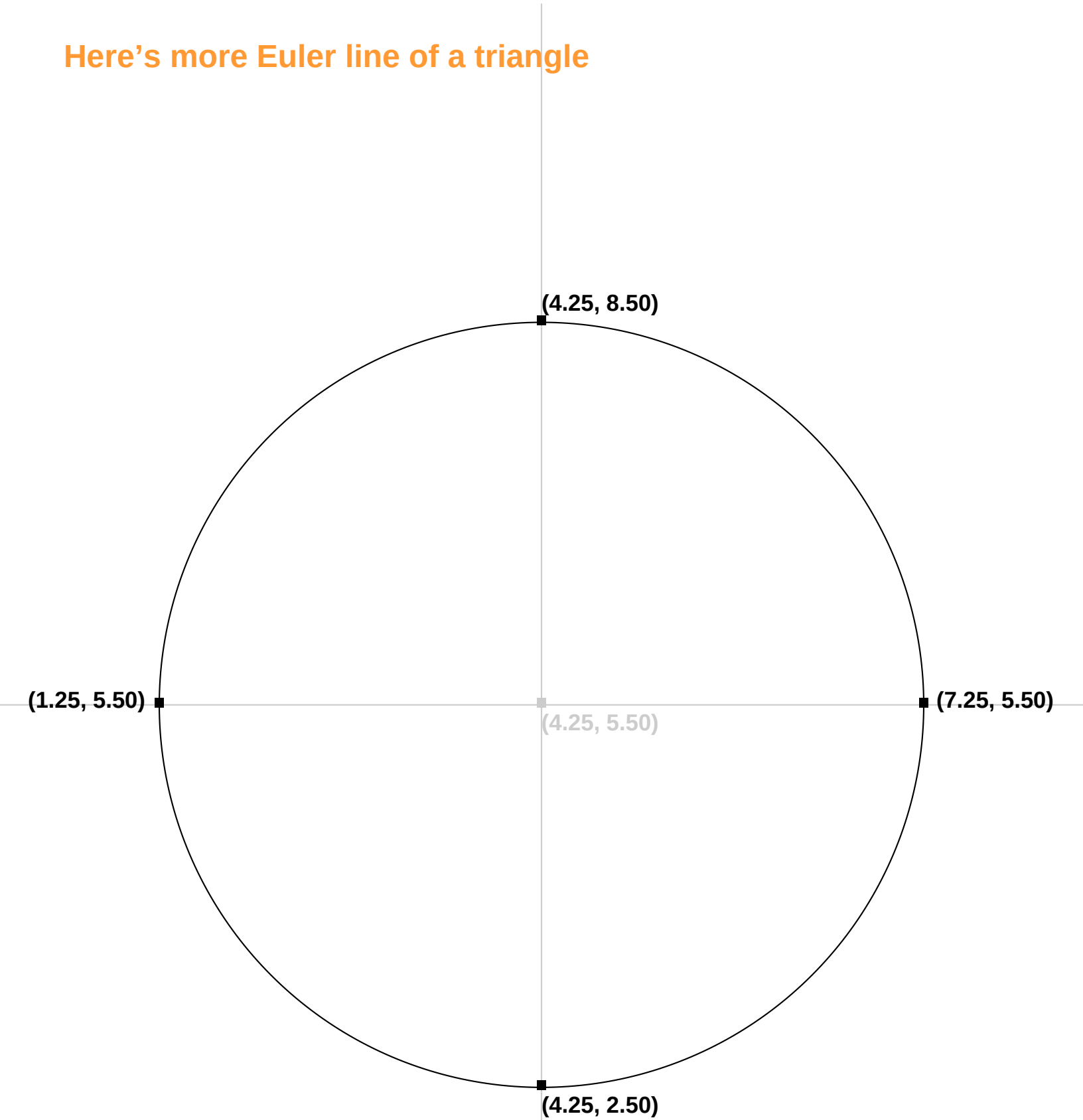

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

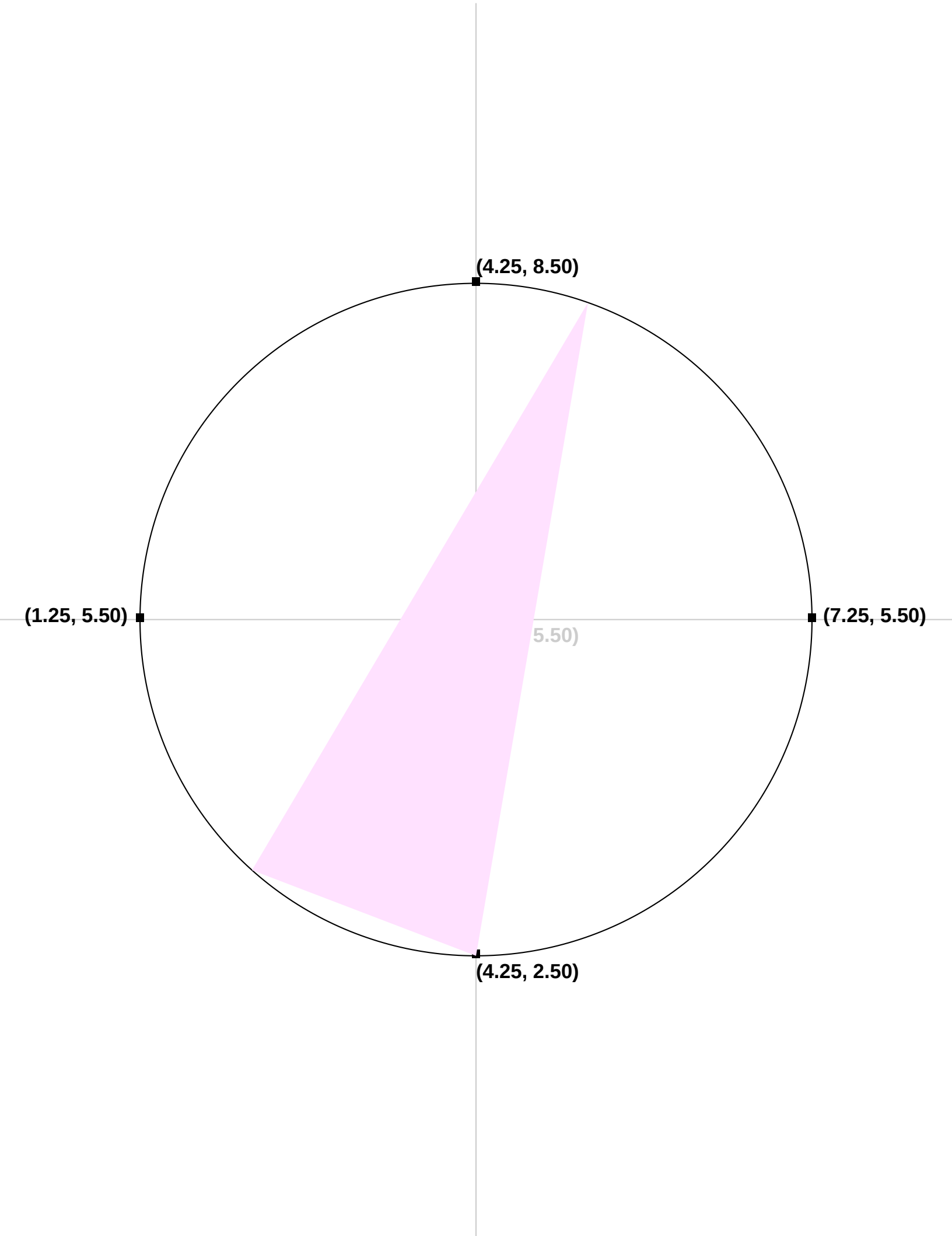

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

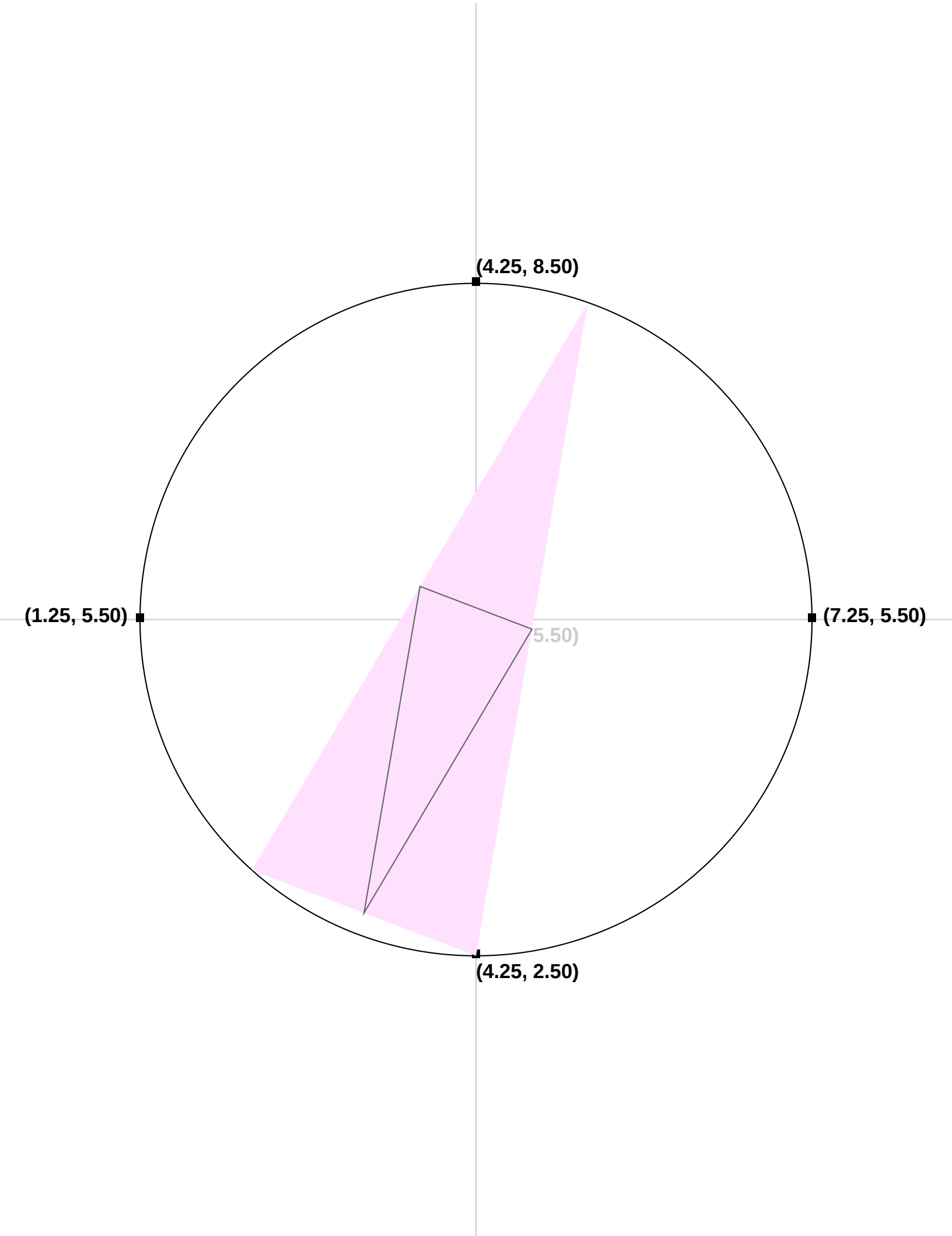

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

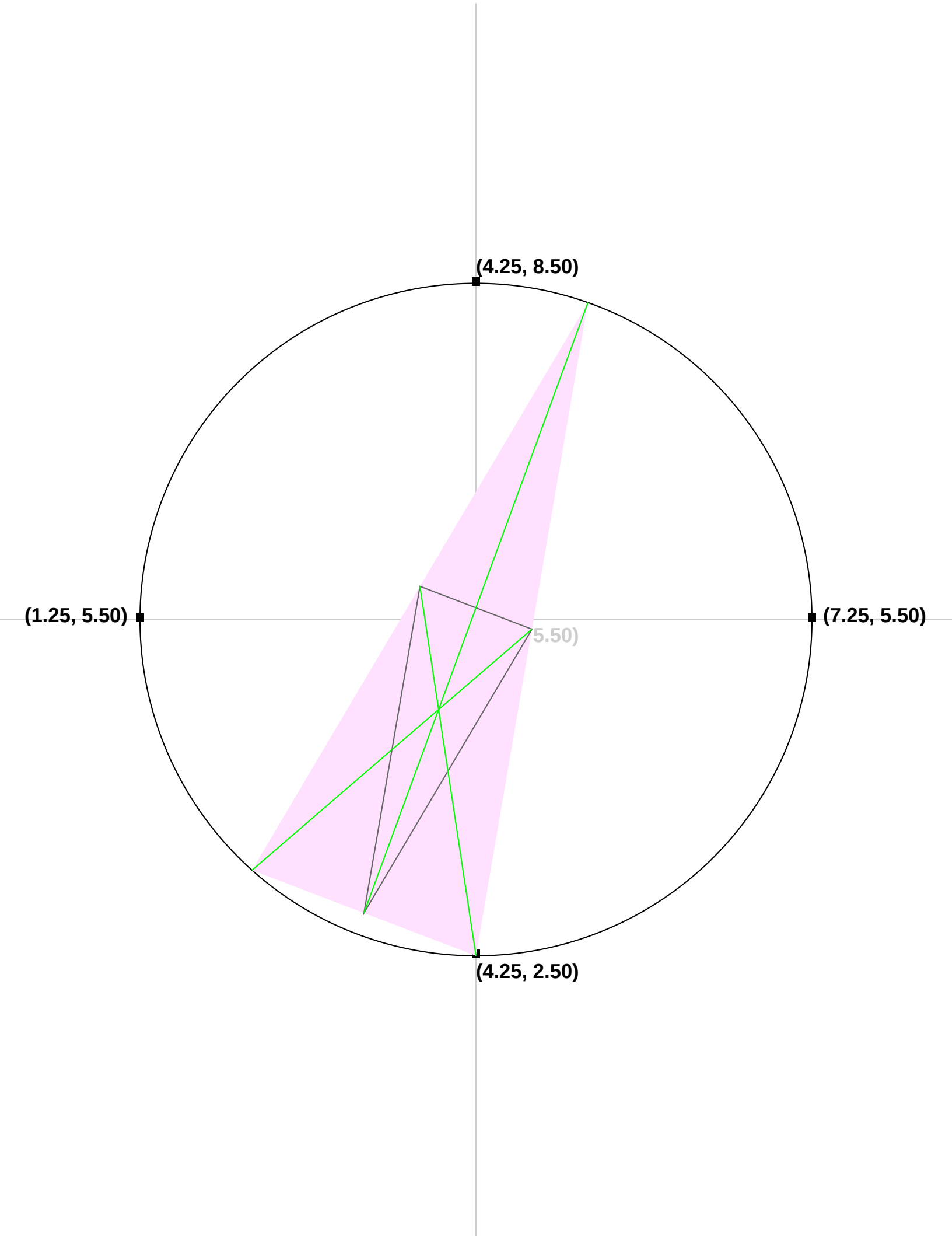

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

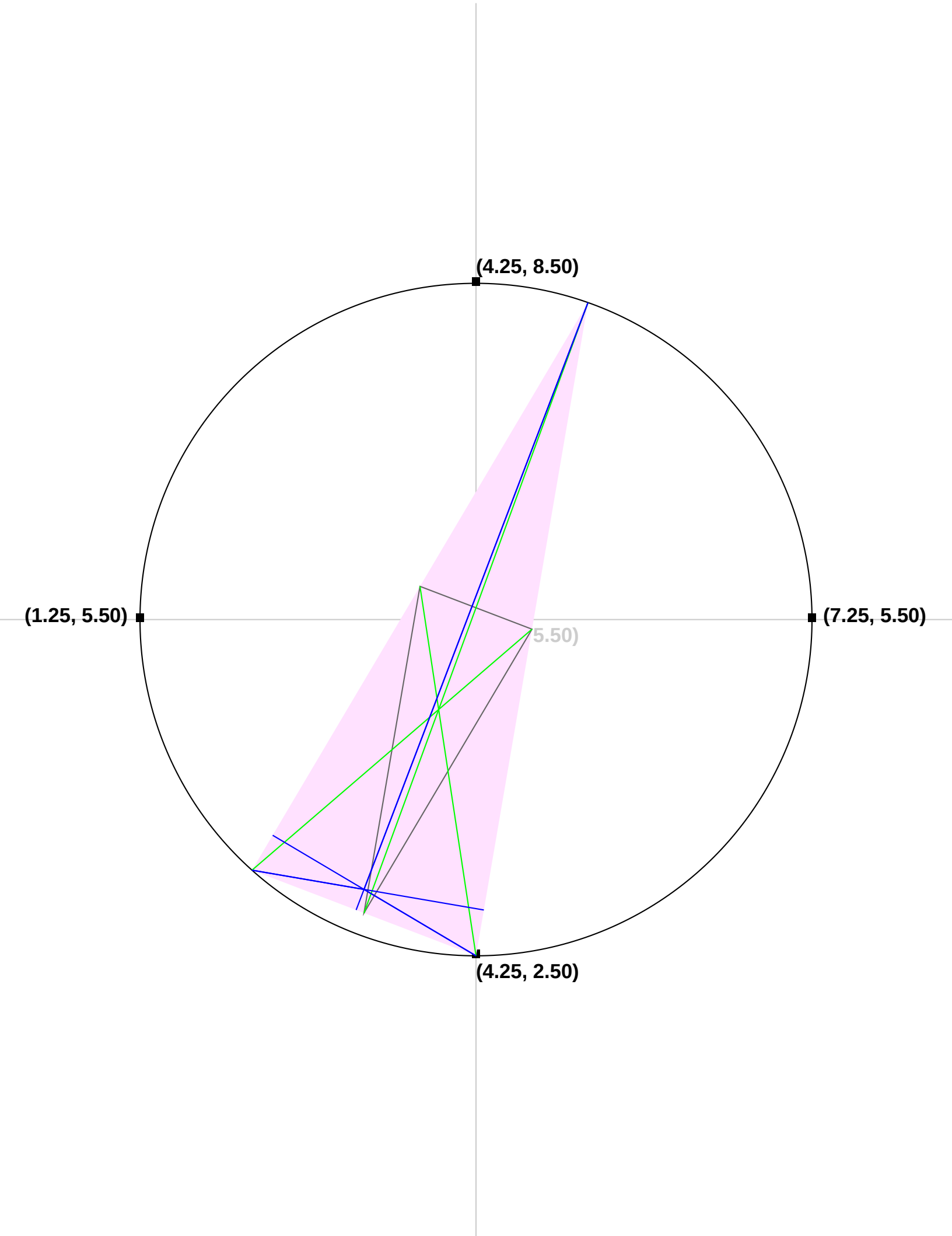
Here’s more Euler line of a triangle

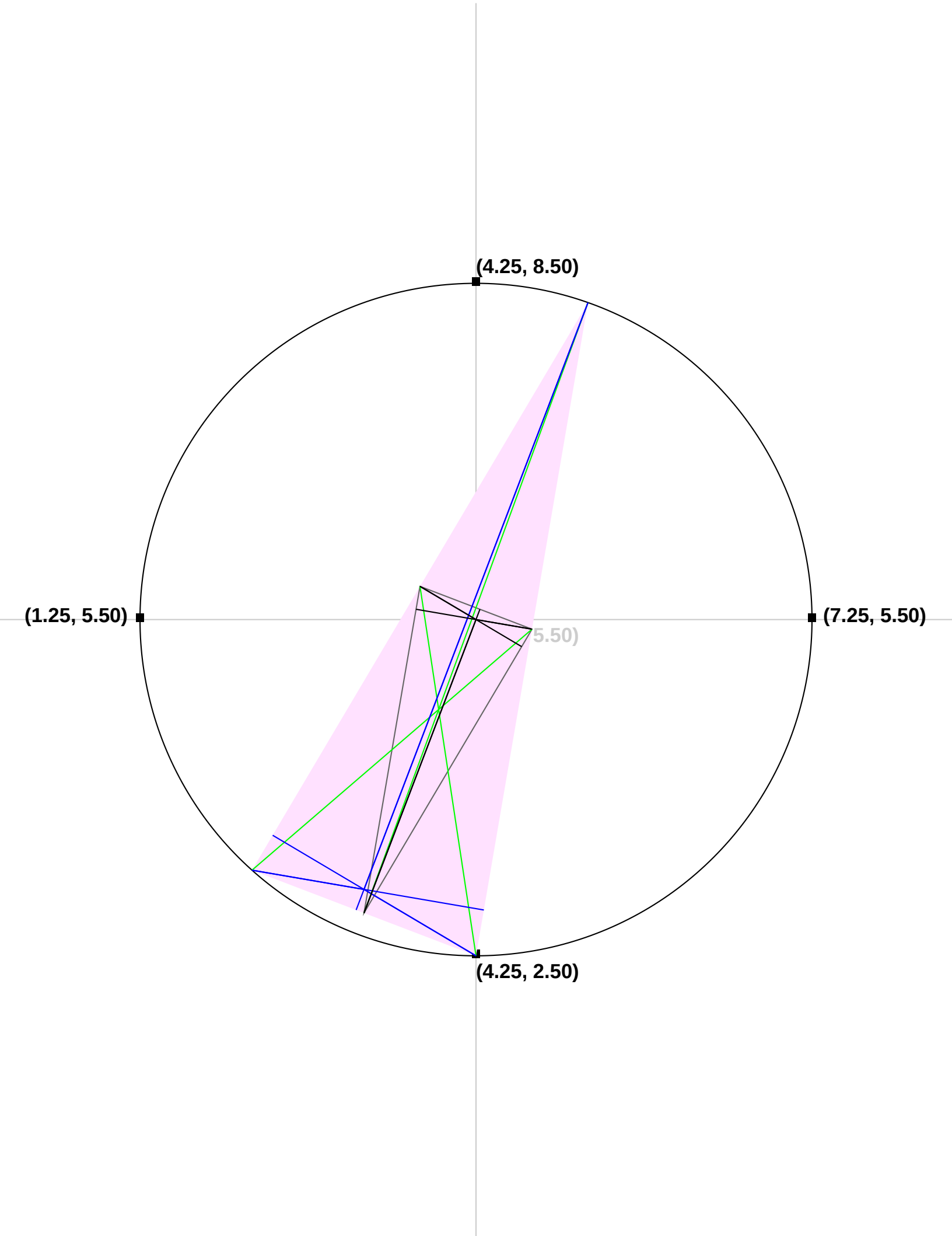


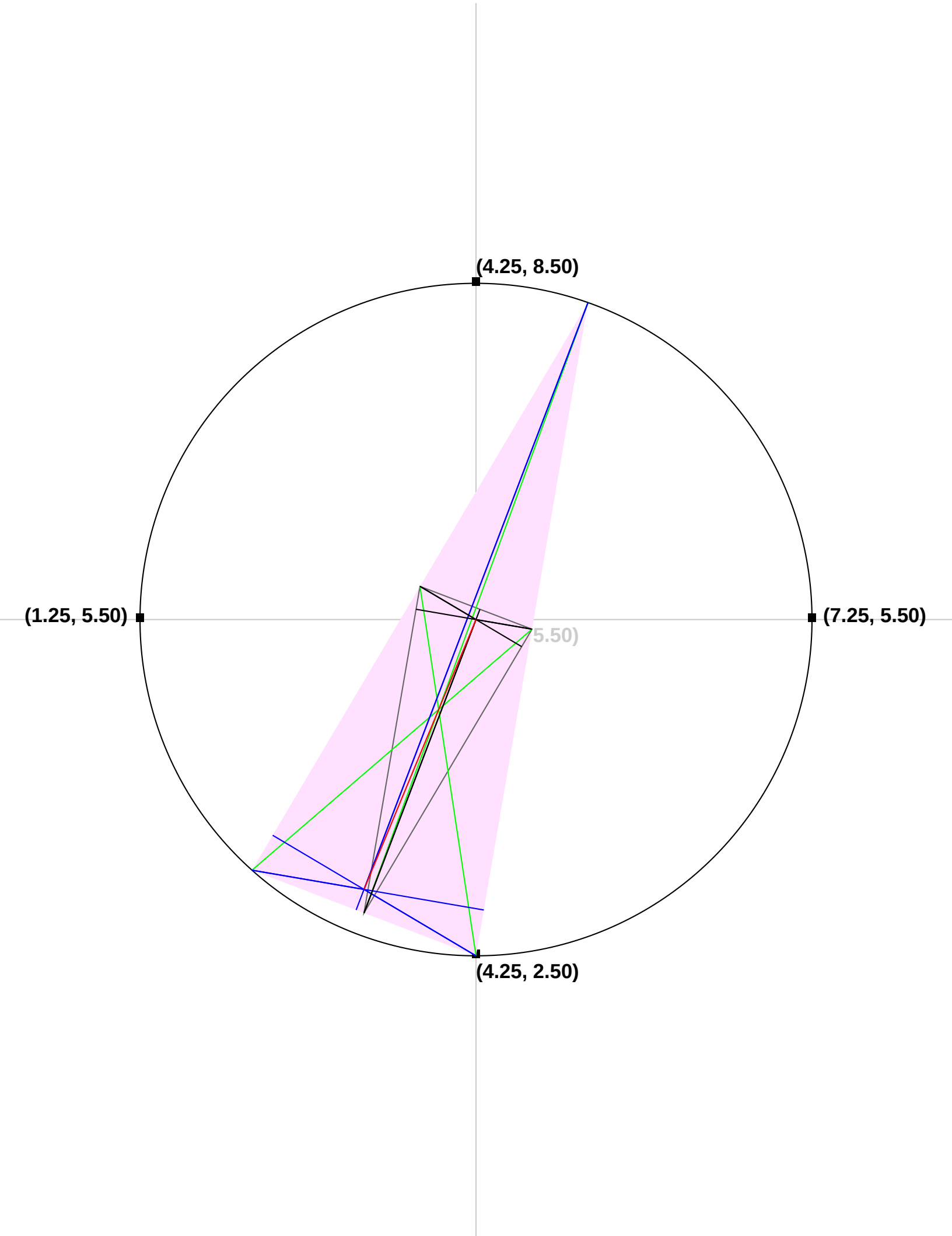

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
5.50)
(4.25, 2.50)

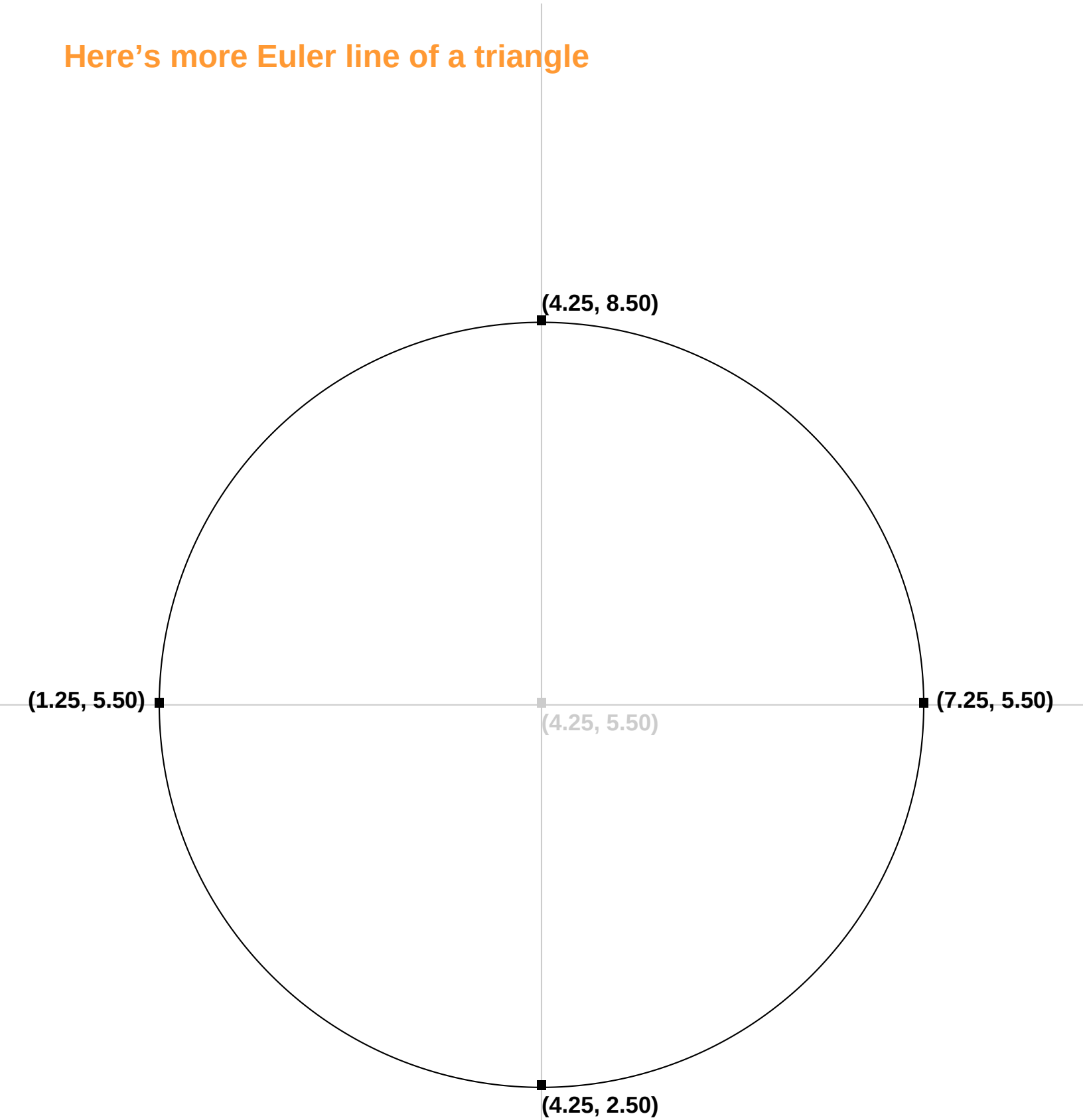

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
5.50)
(4.25, 2.50)

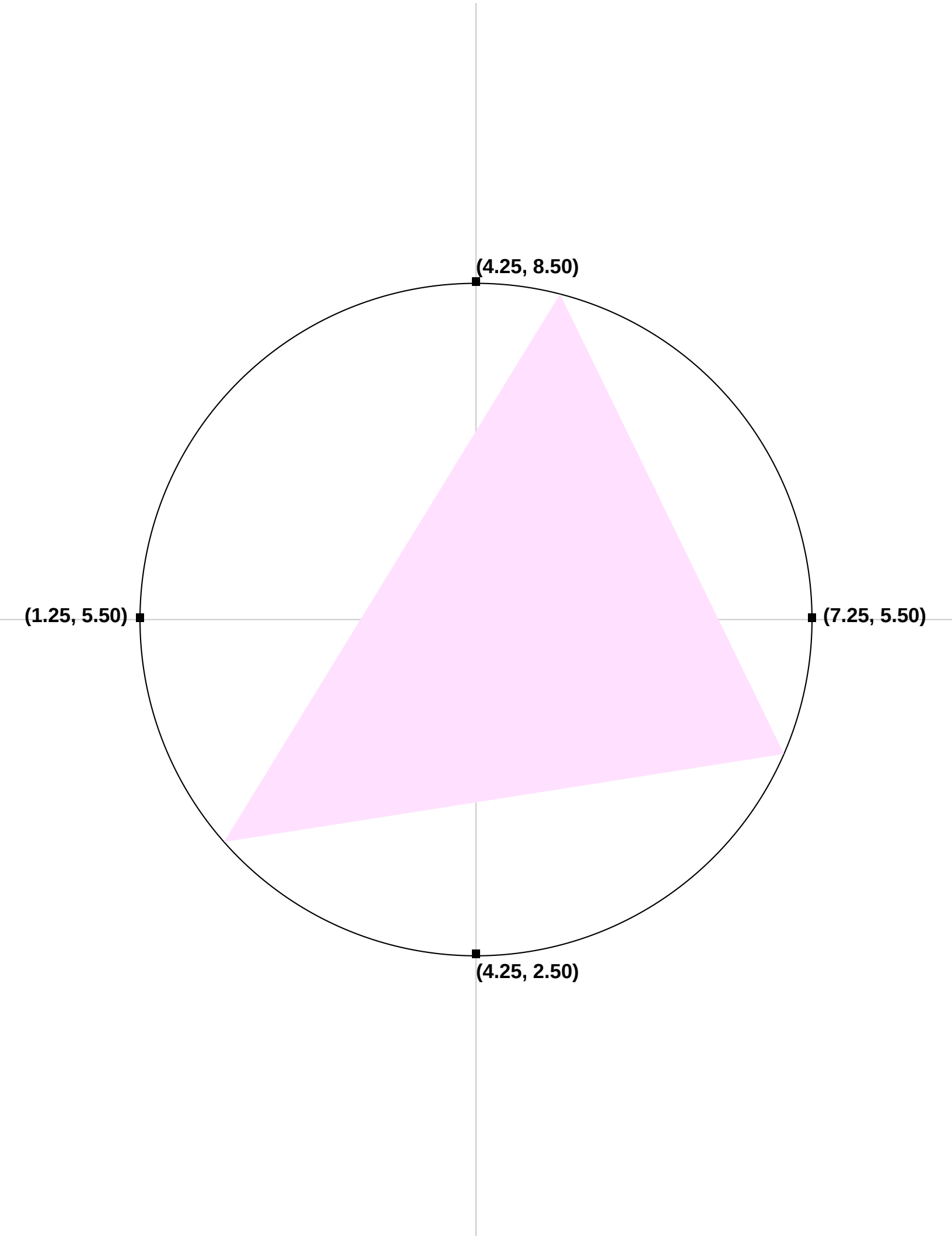

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
5.50)
(4.25, 2.50)

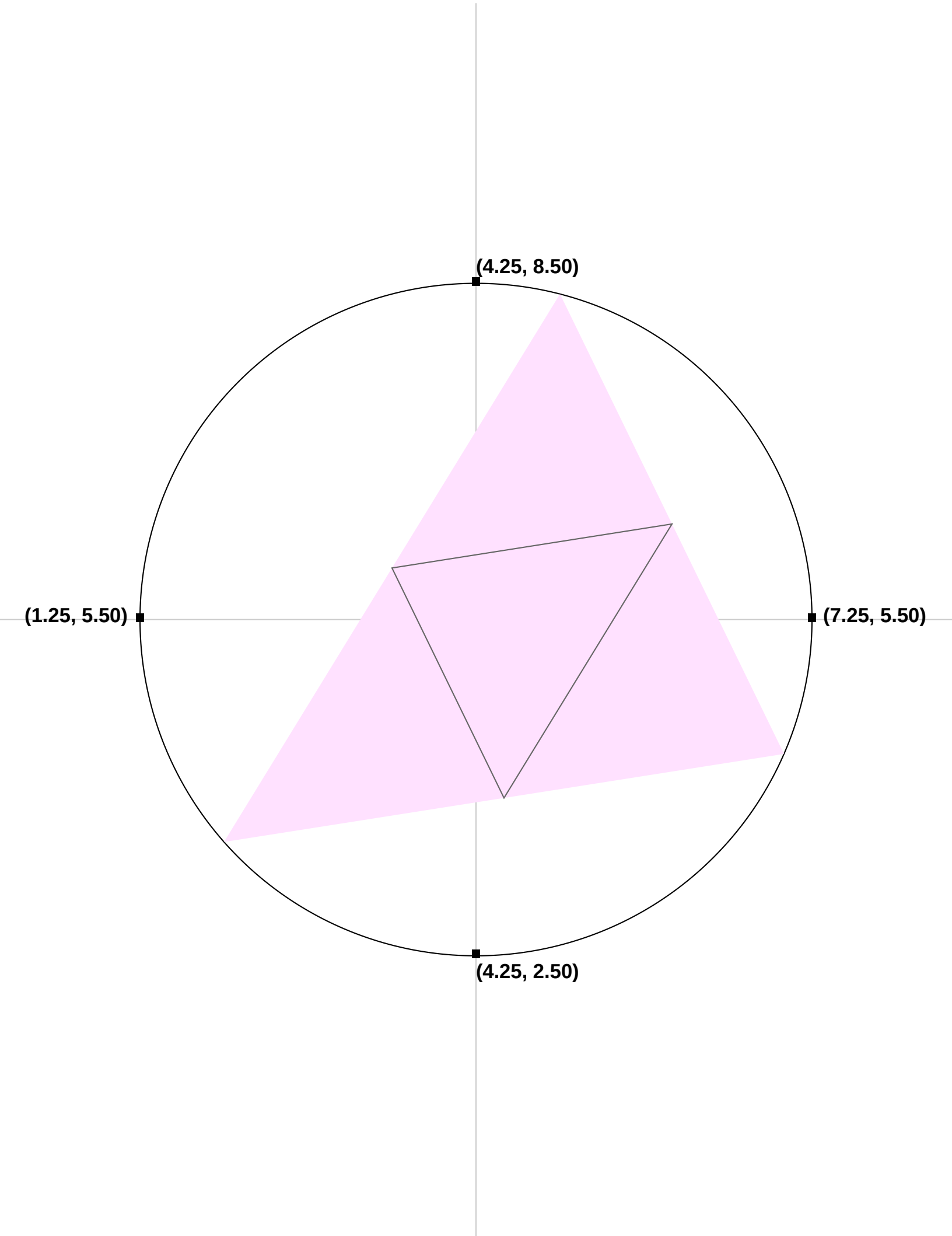

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
5.50)
(4.25, 2.50)

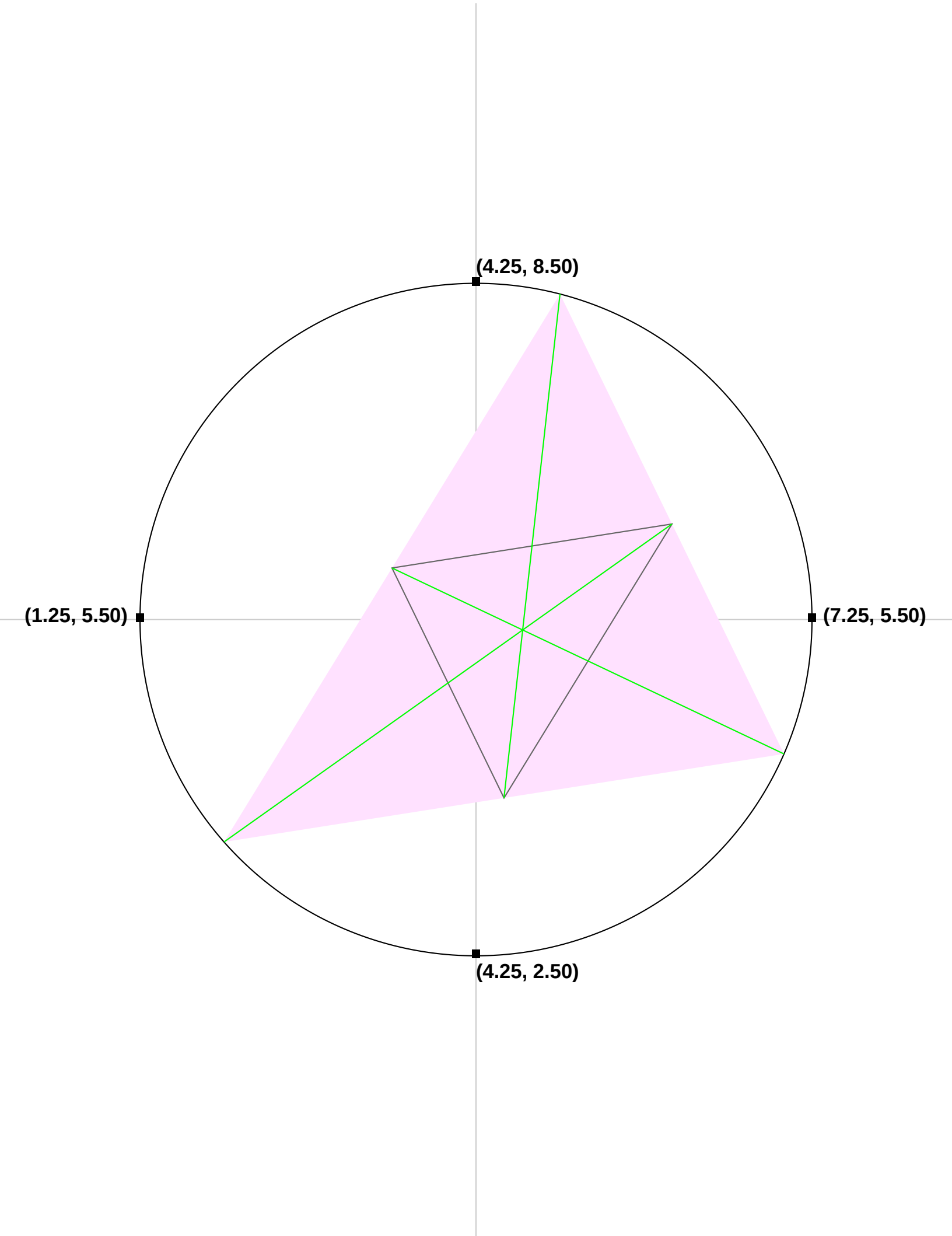

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
5.50)
(4.25, 2.50)

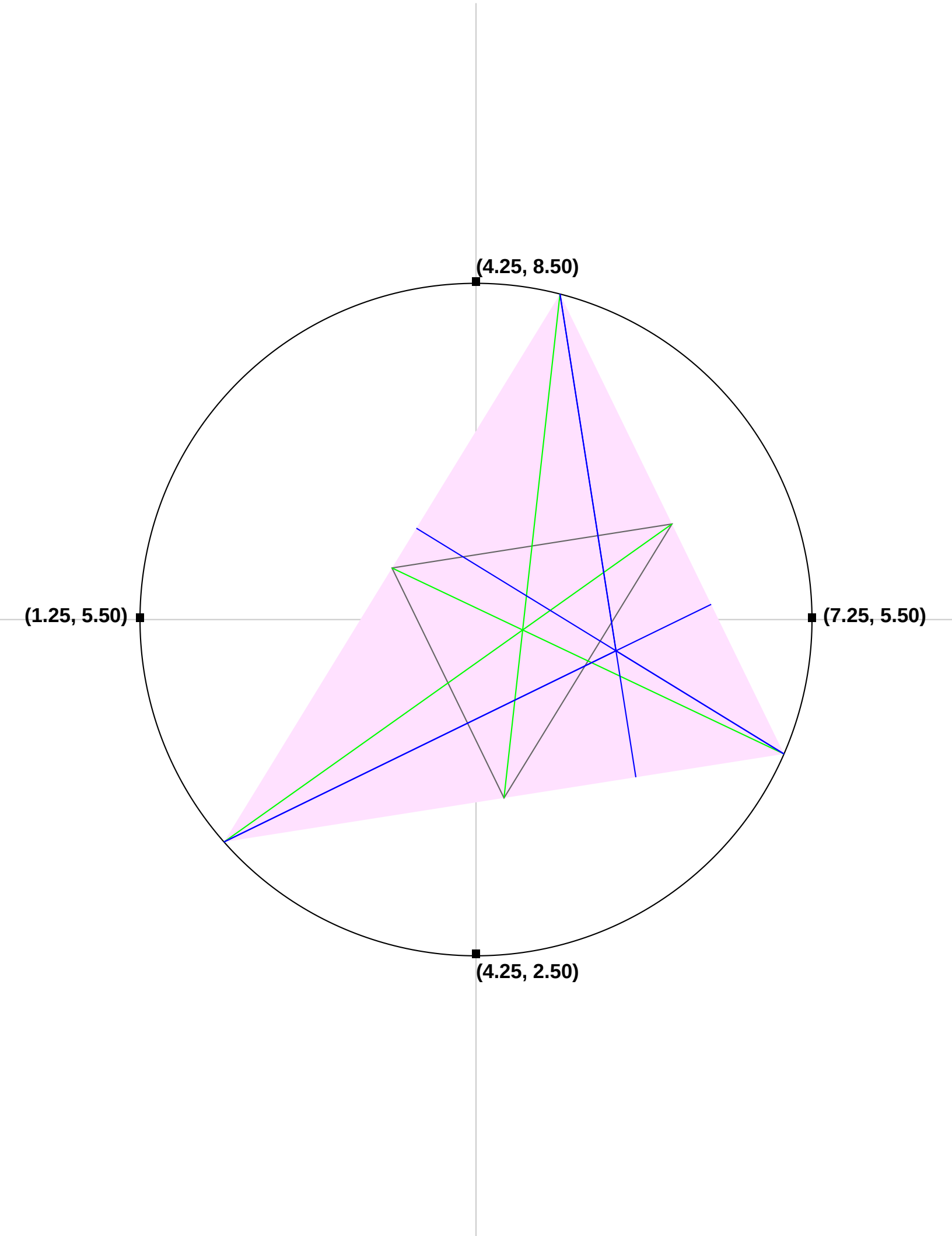
Here’s more Euler line of a triangle

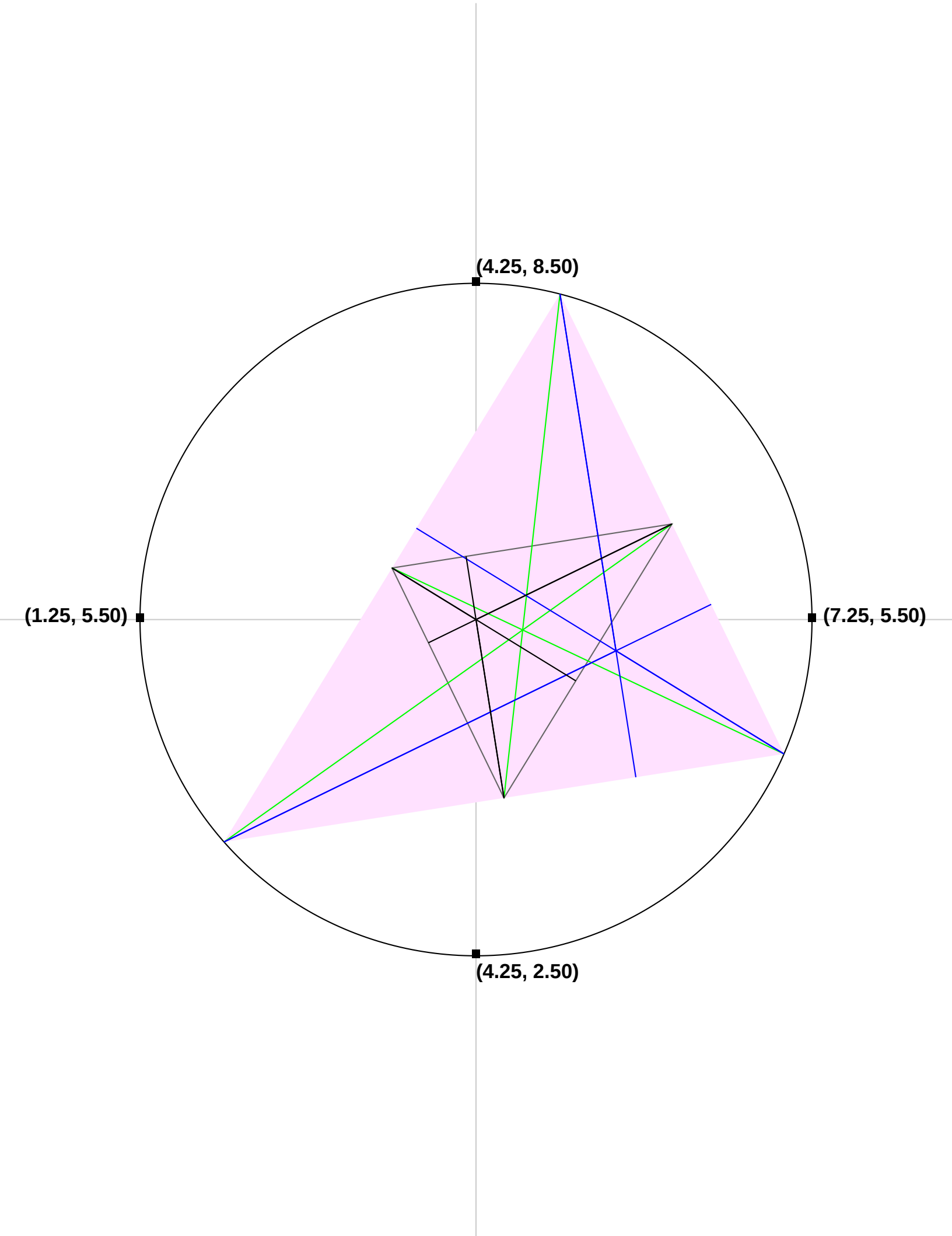


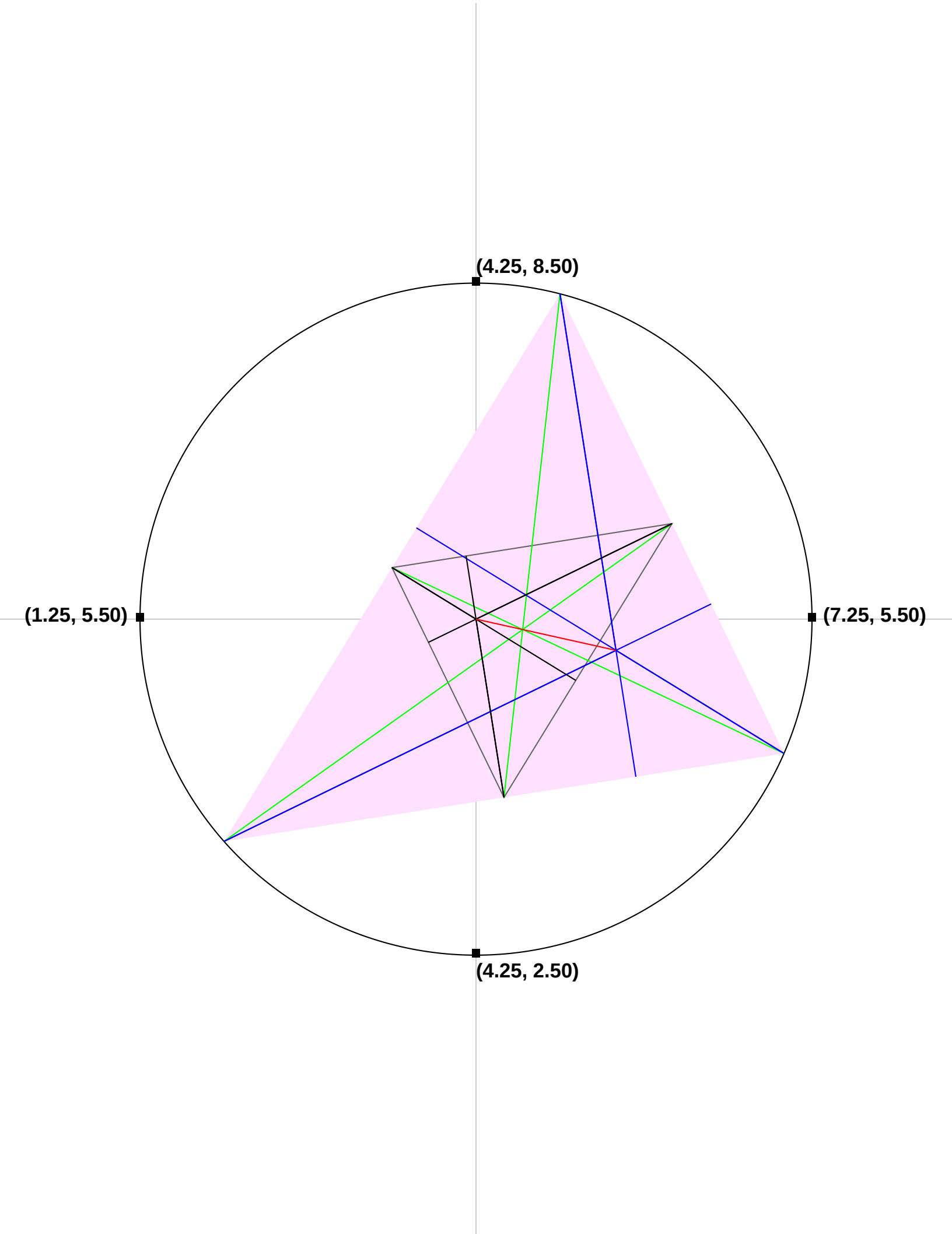

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

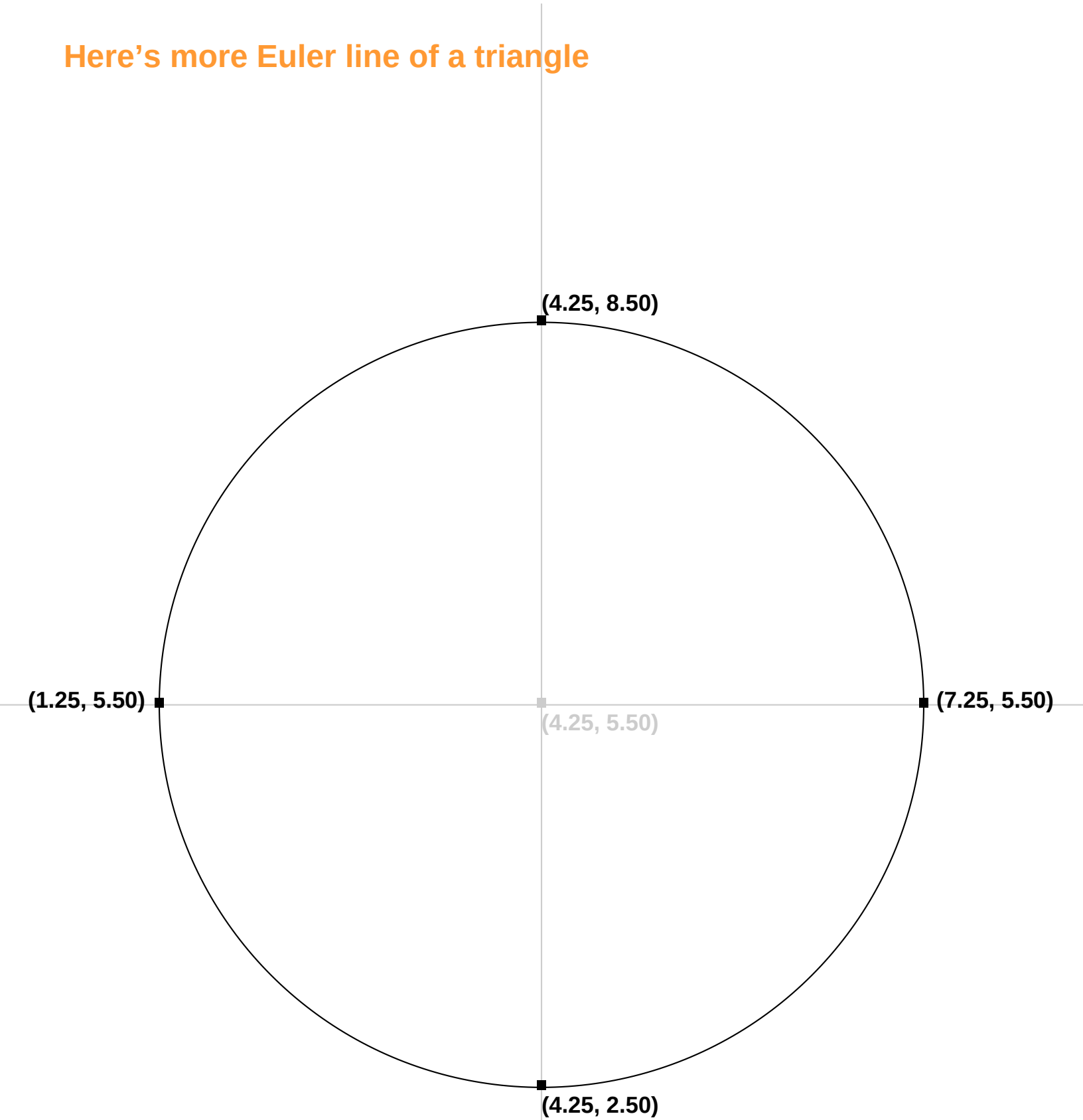

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

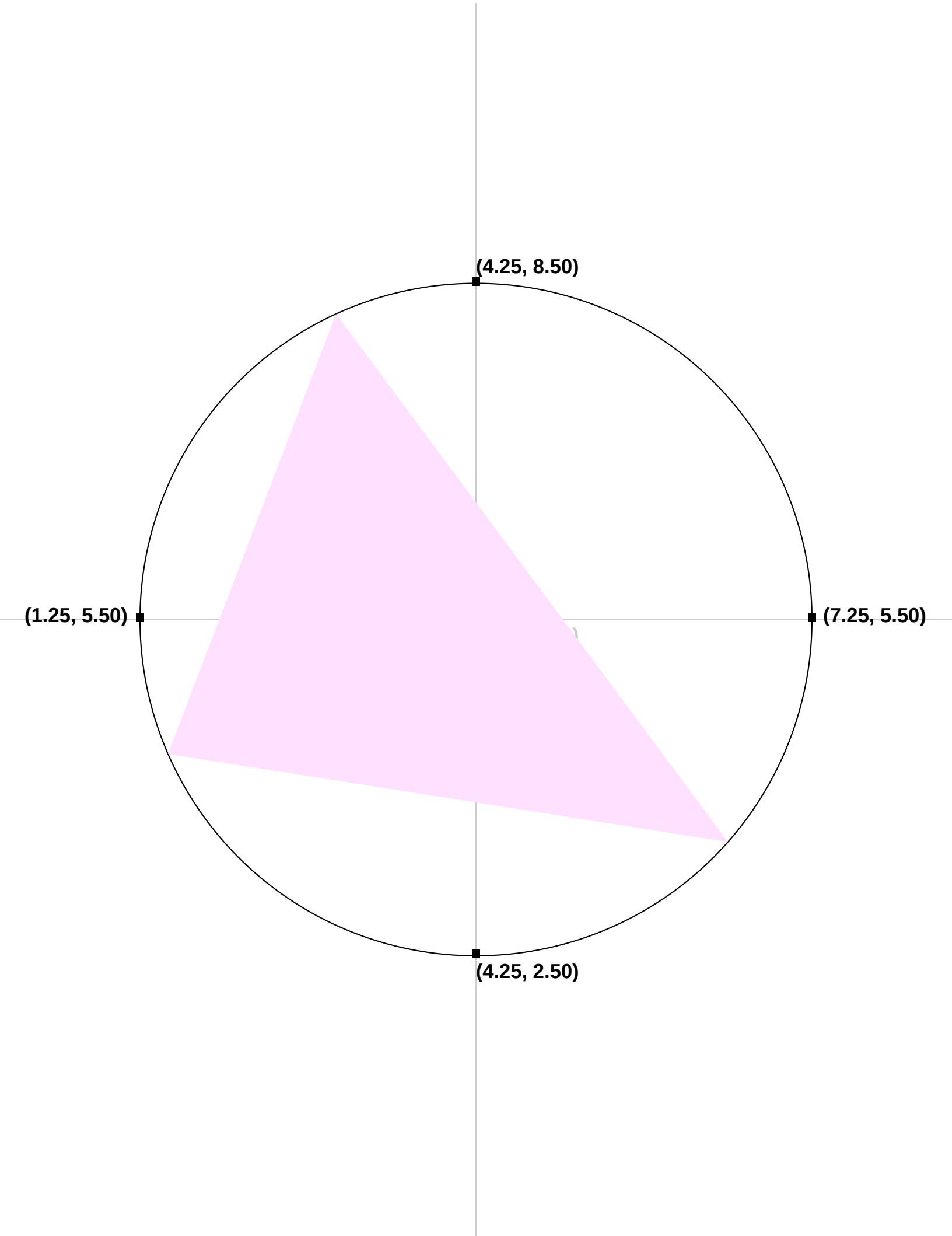

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

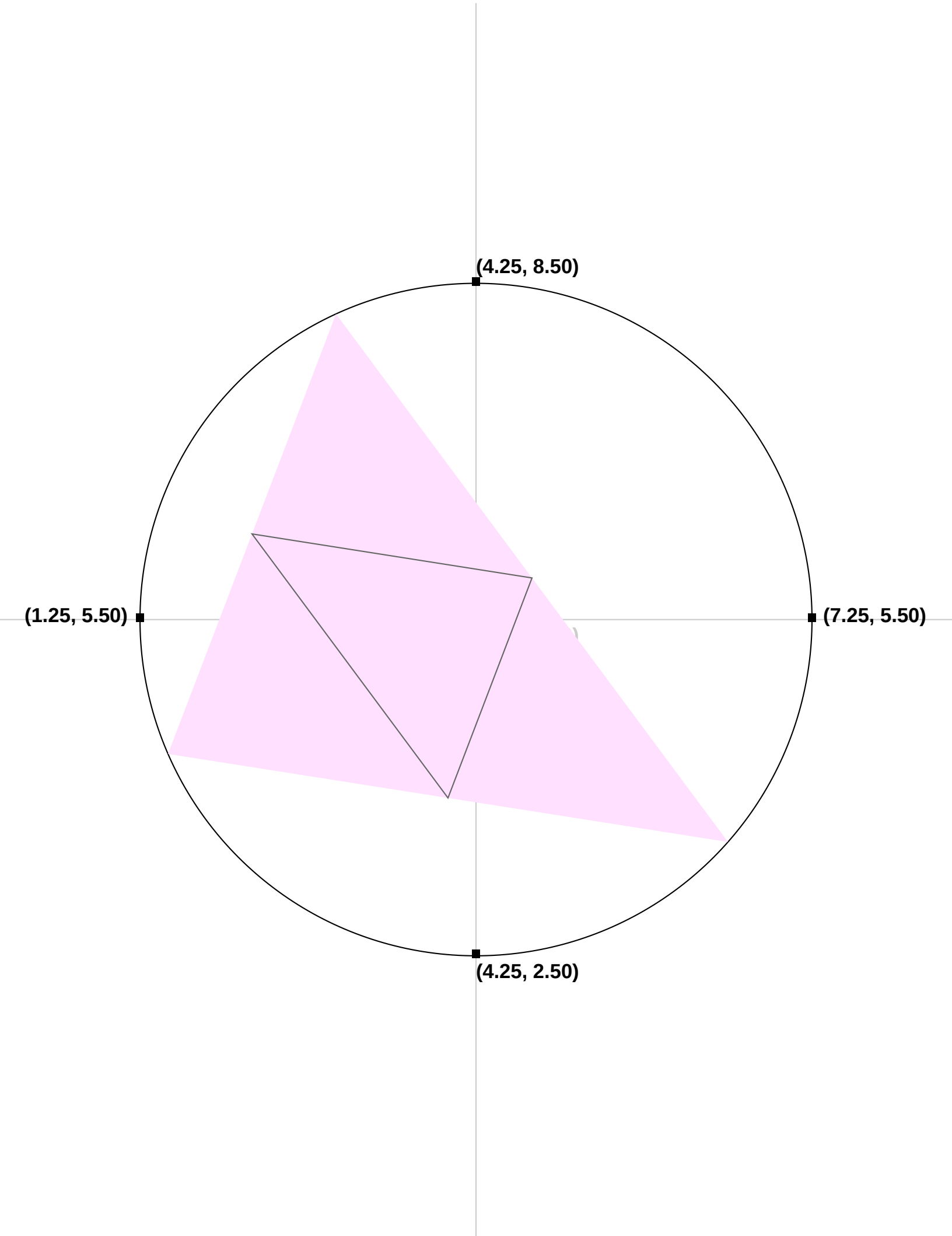

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

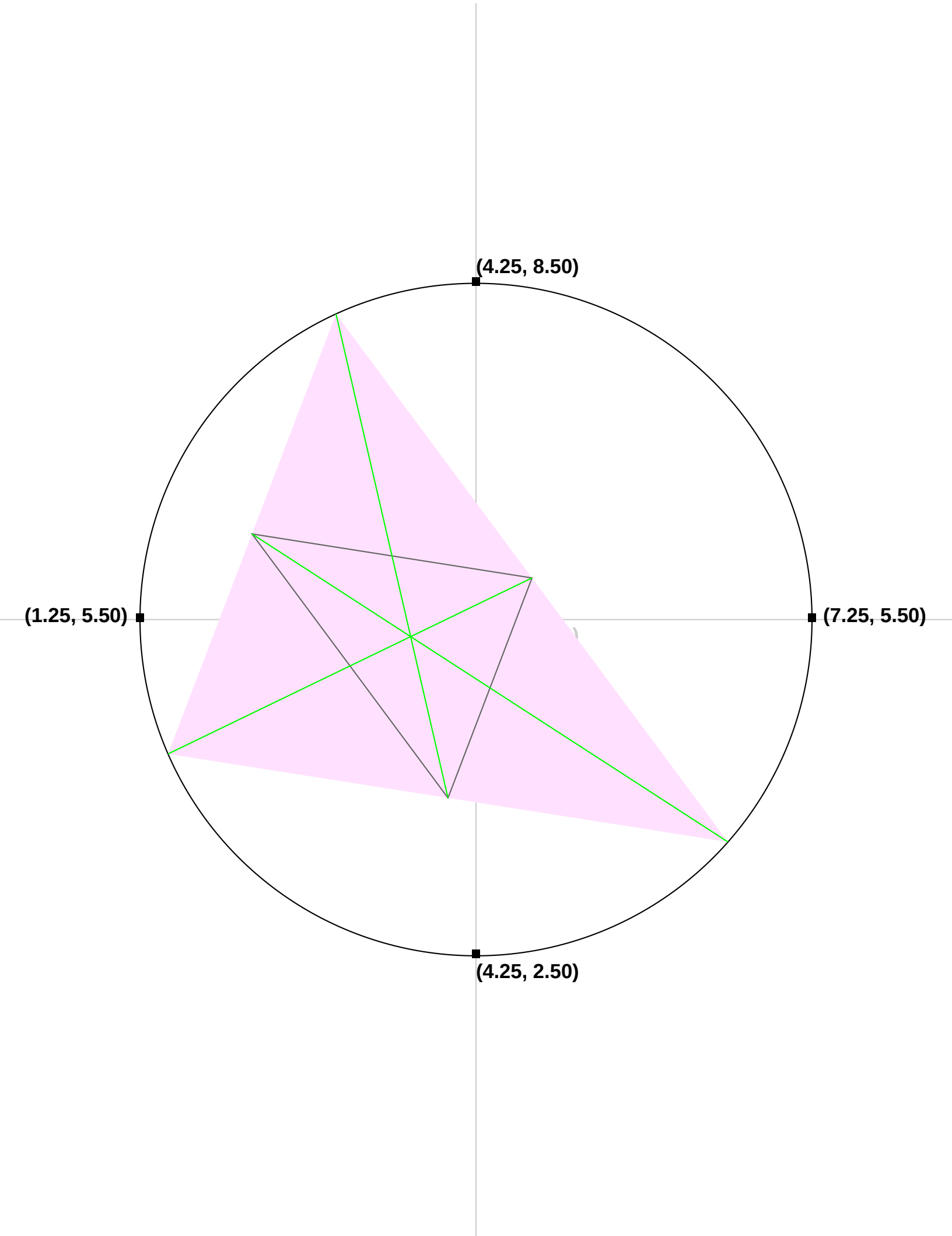

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

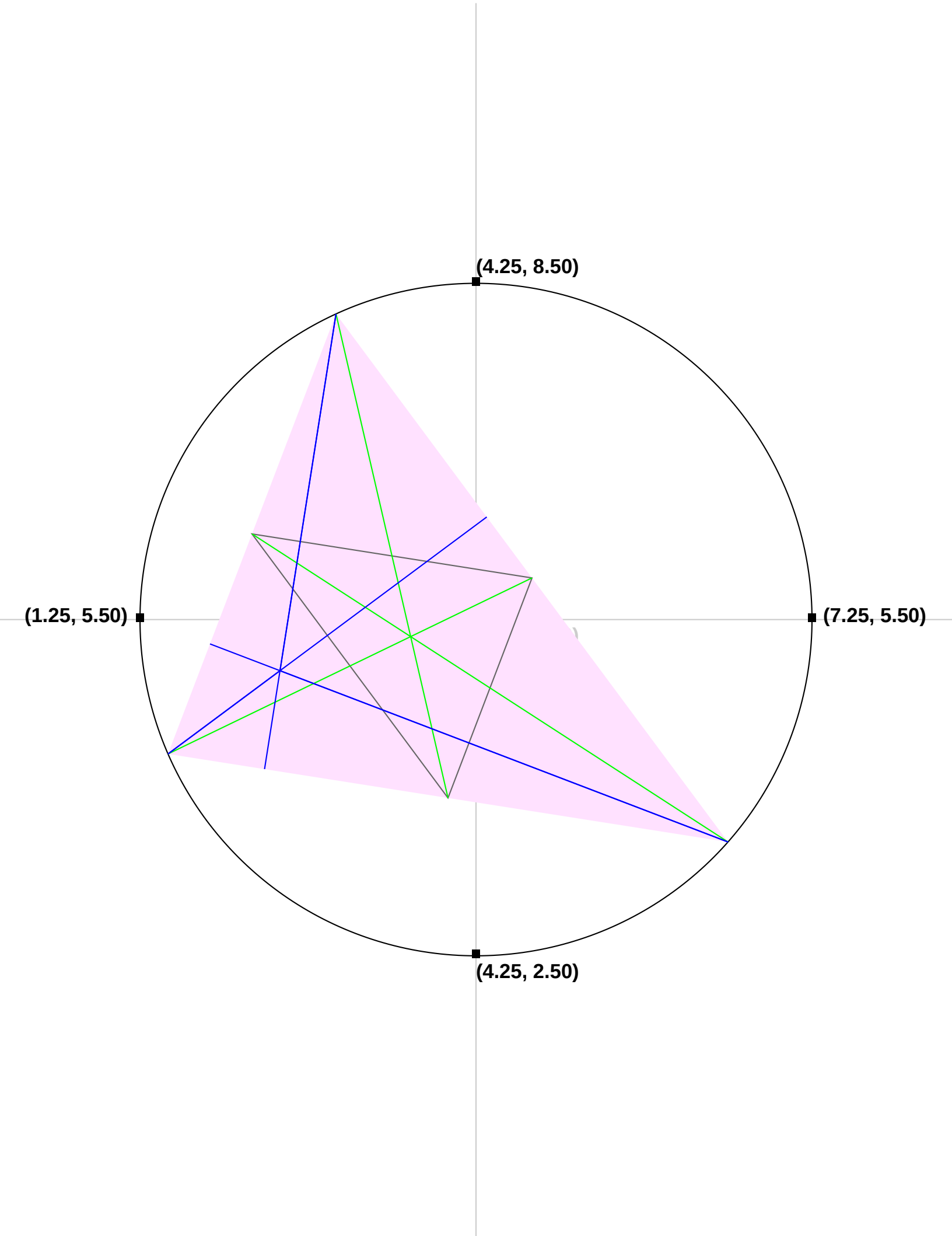
Here’s more Euler line of a triangle

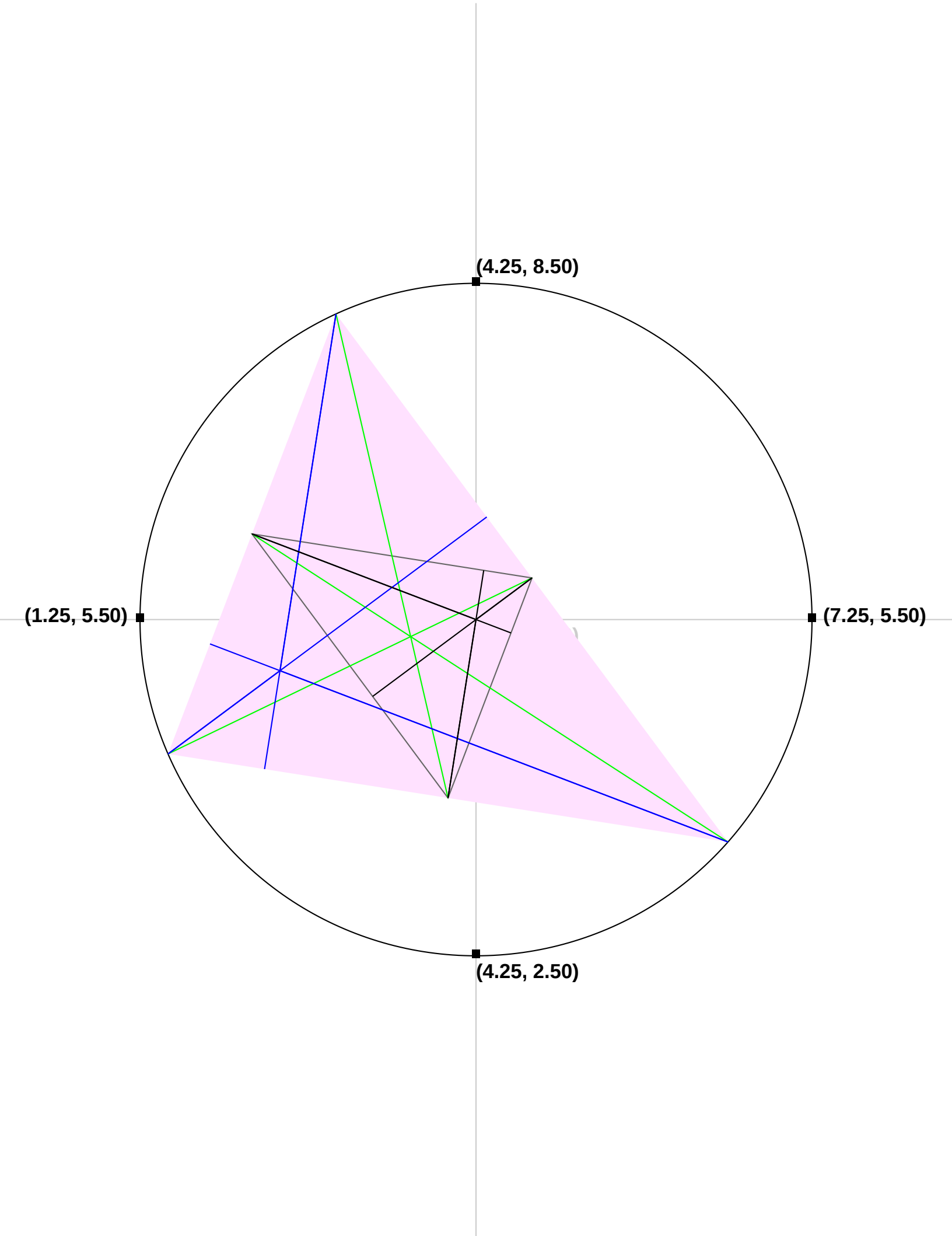


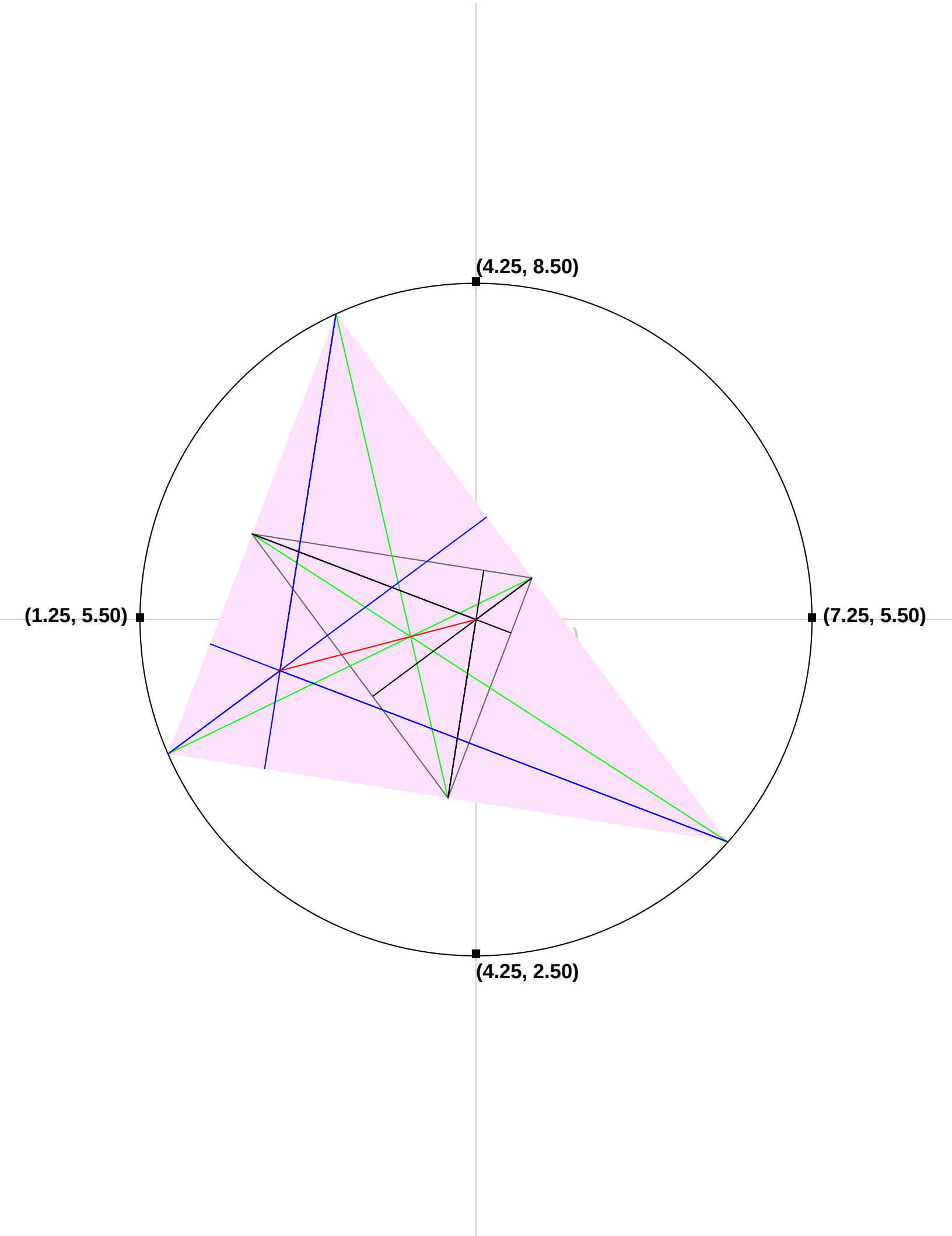

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

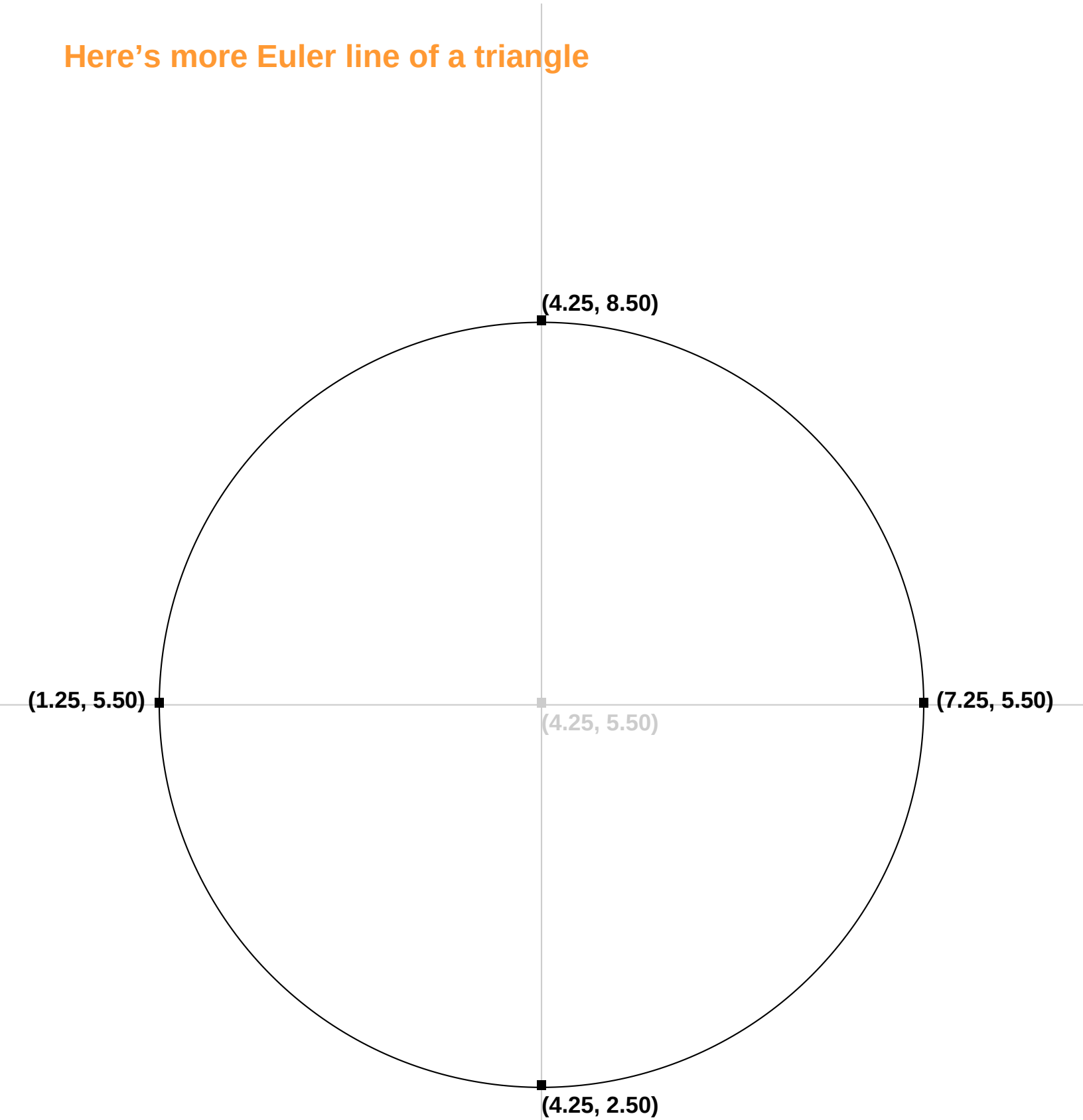

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

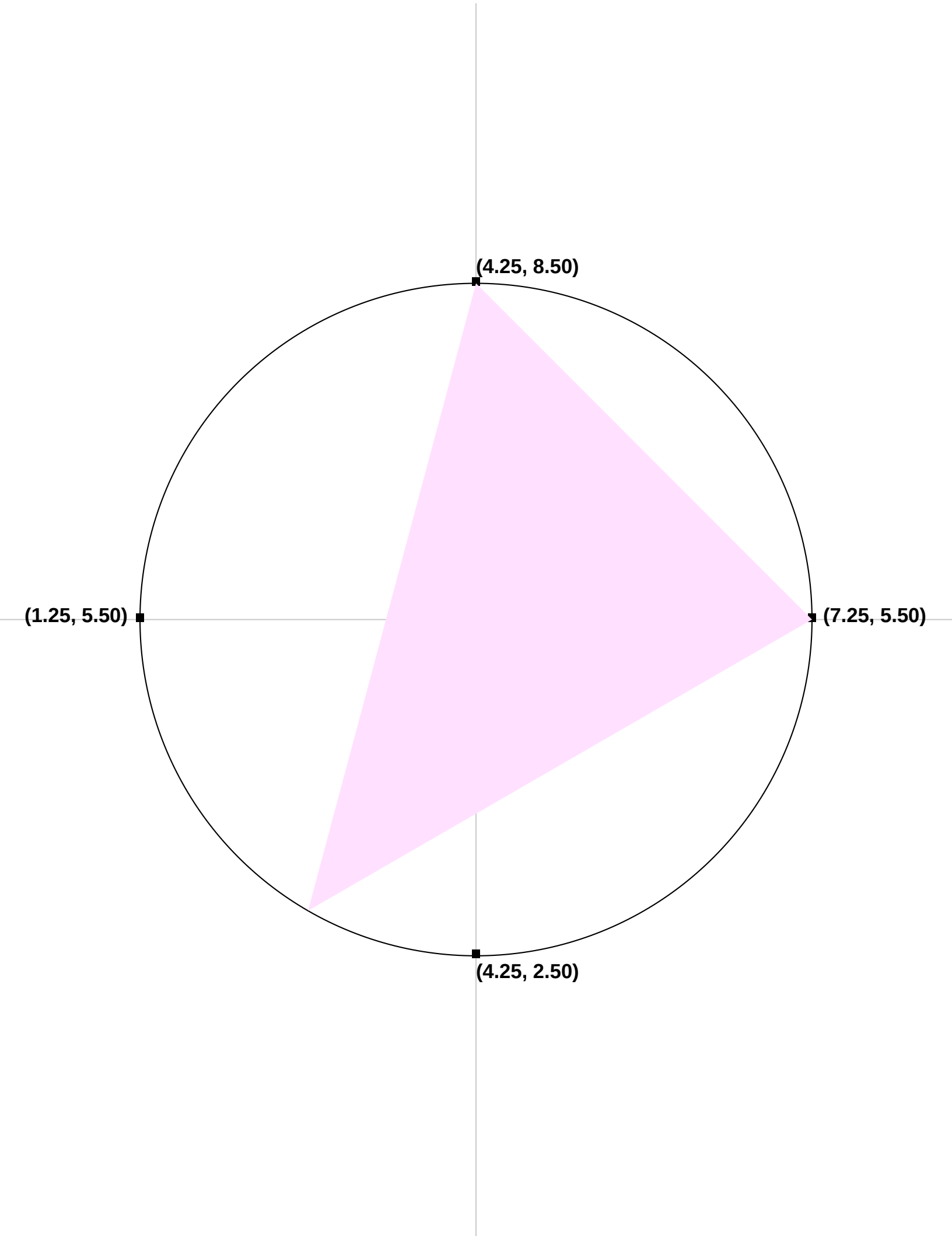

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

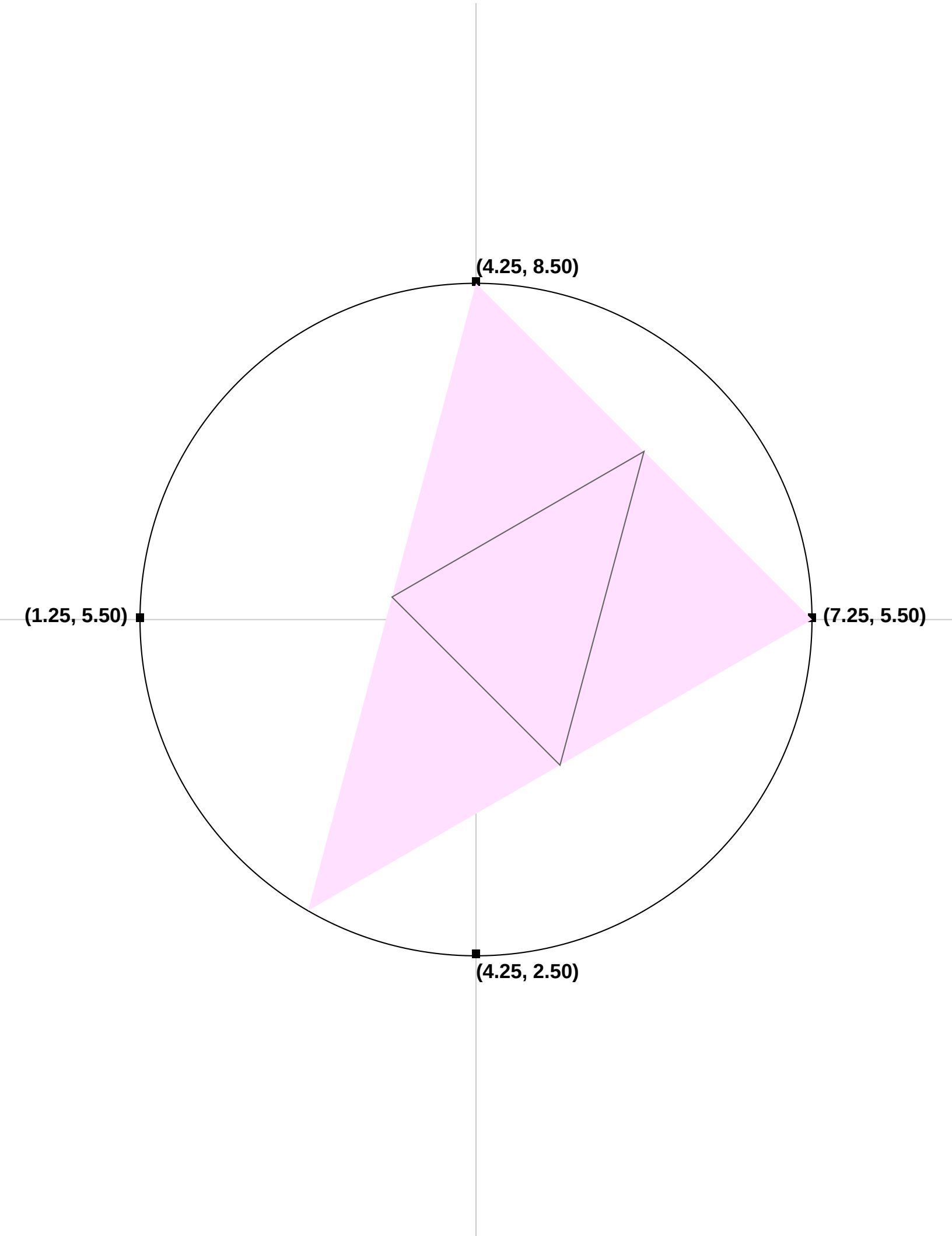

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

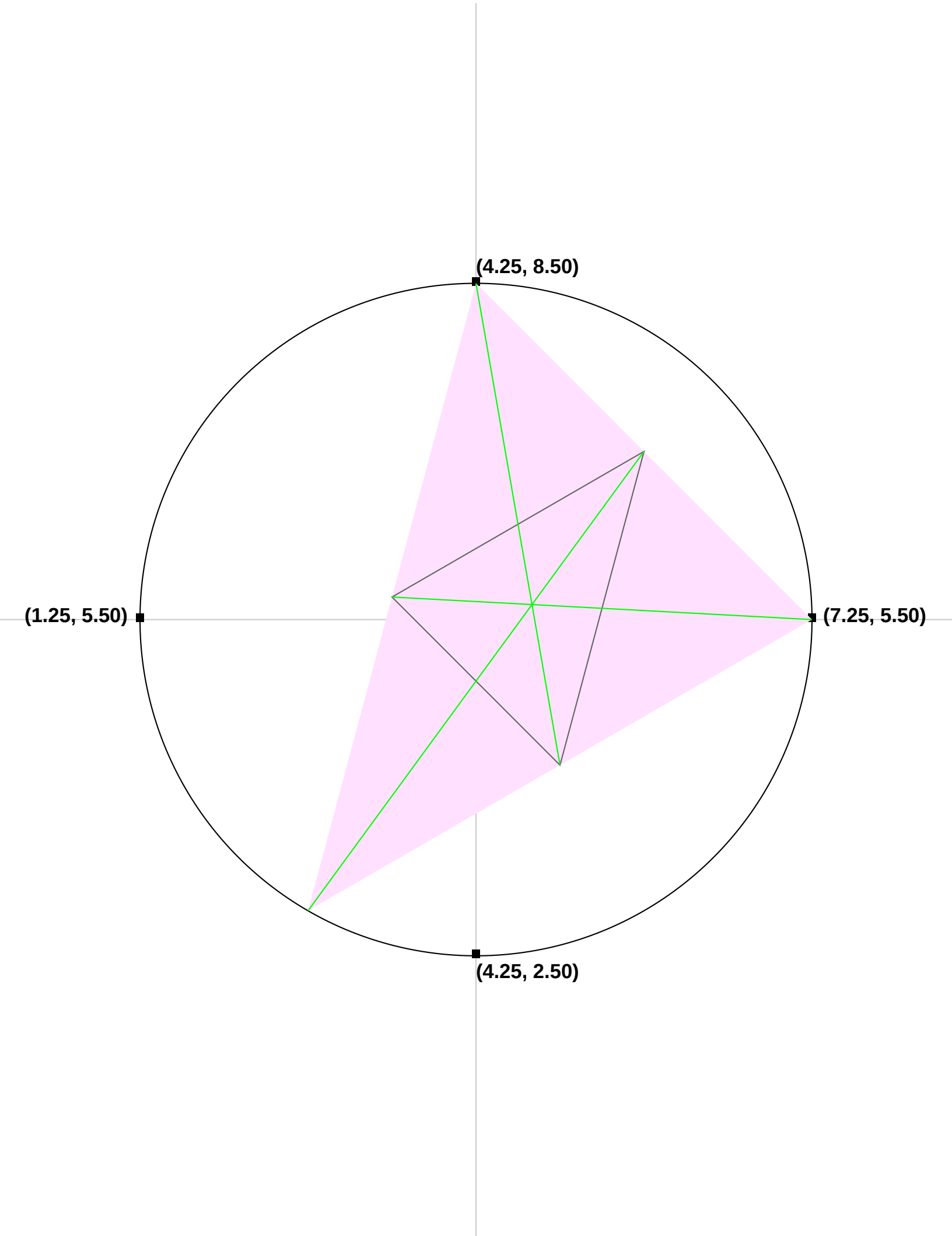

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)

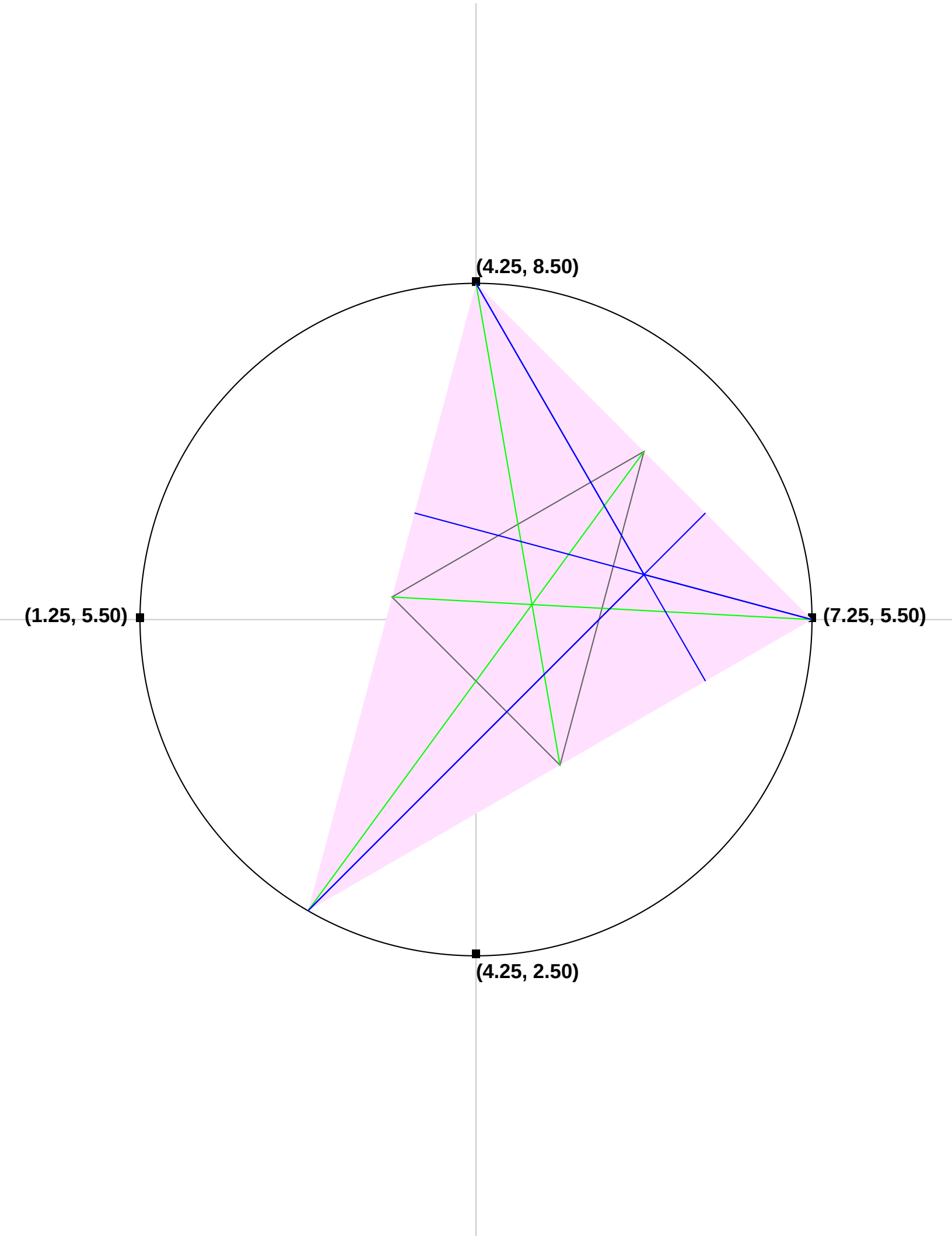
Here’s more Euler line of a triangle

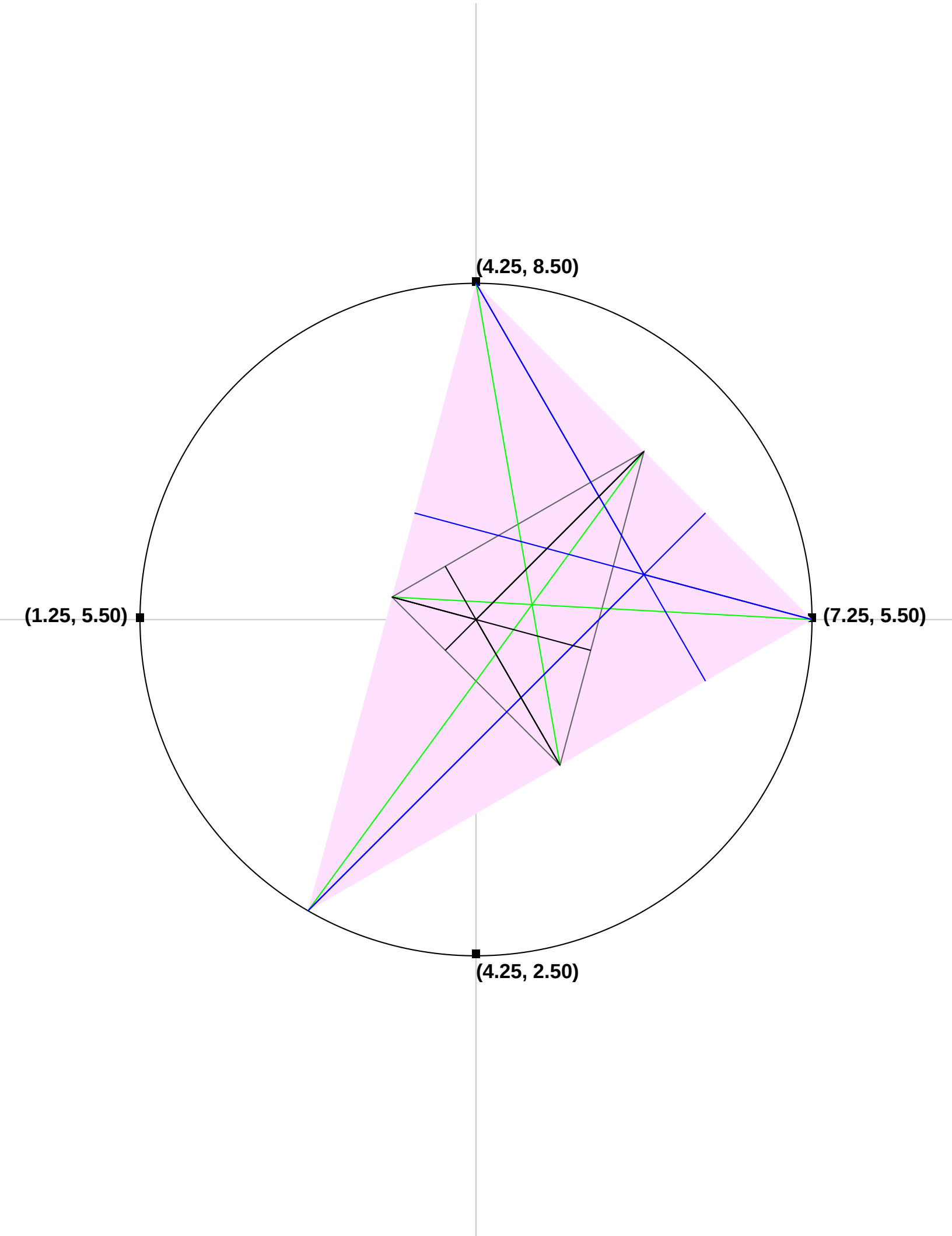


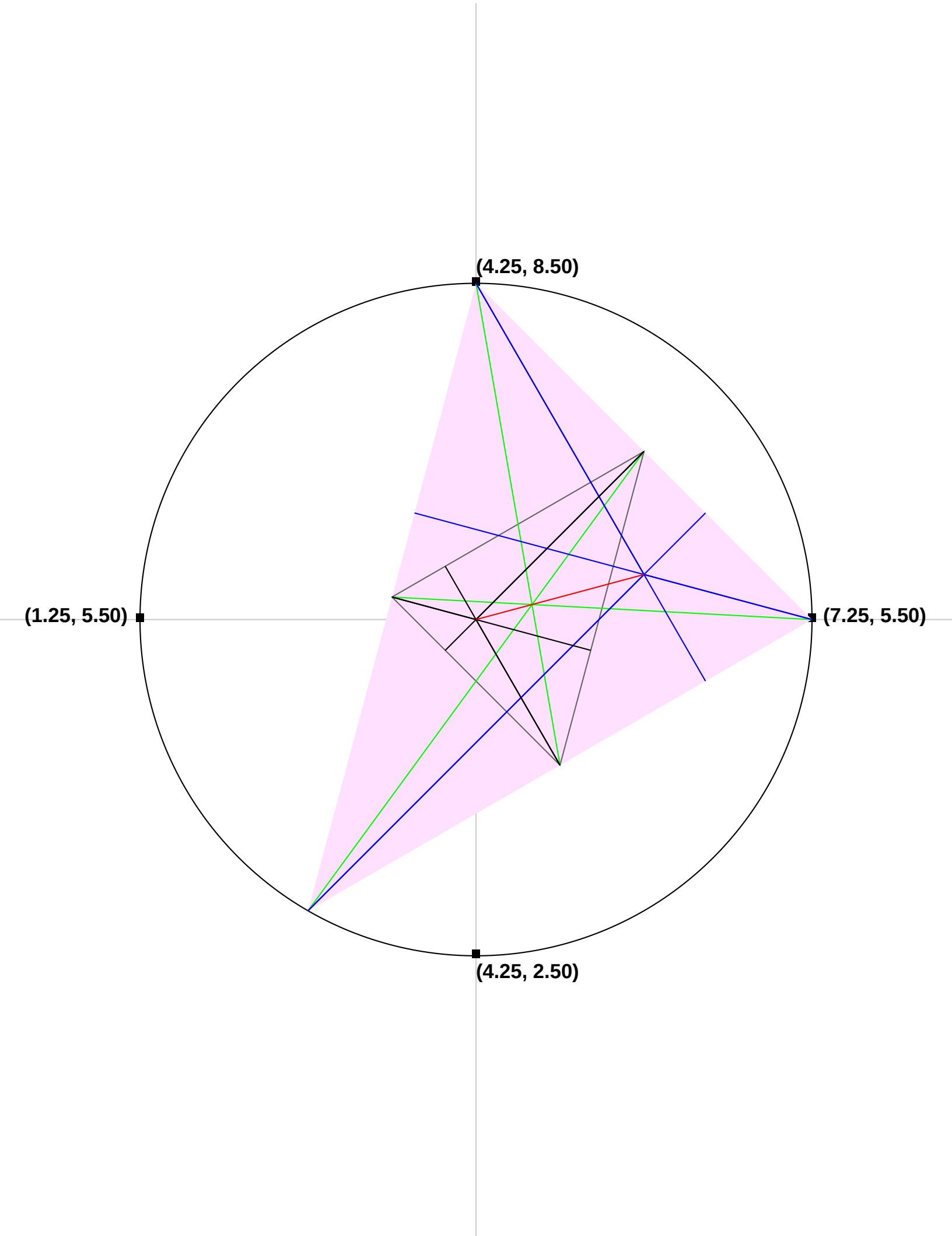
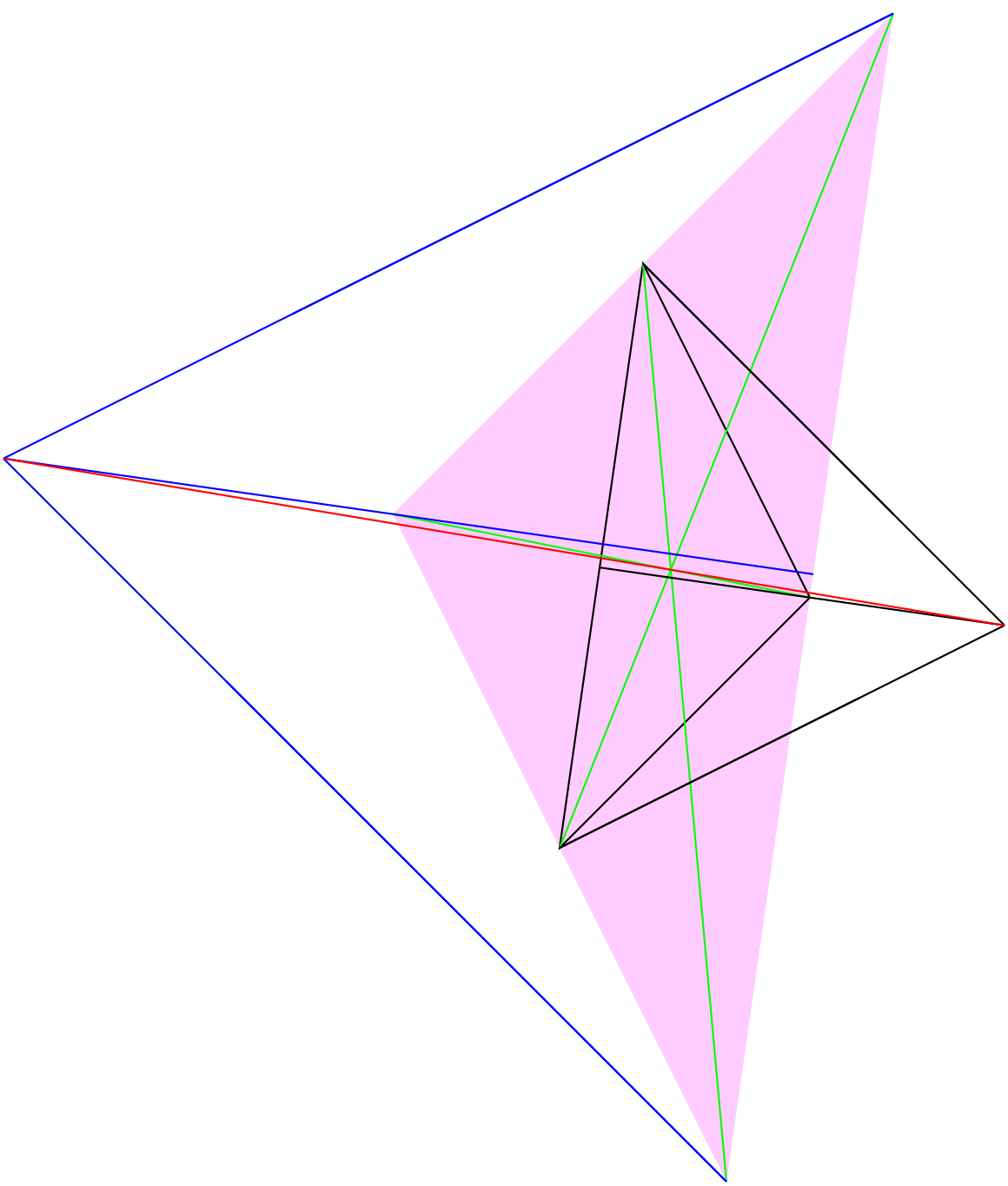
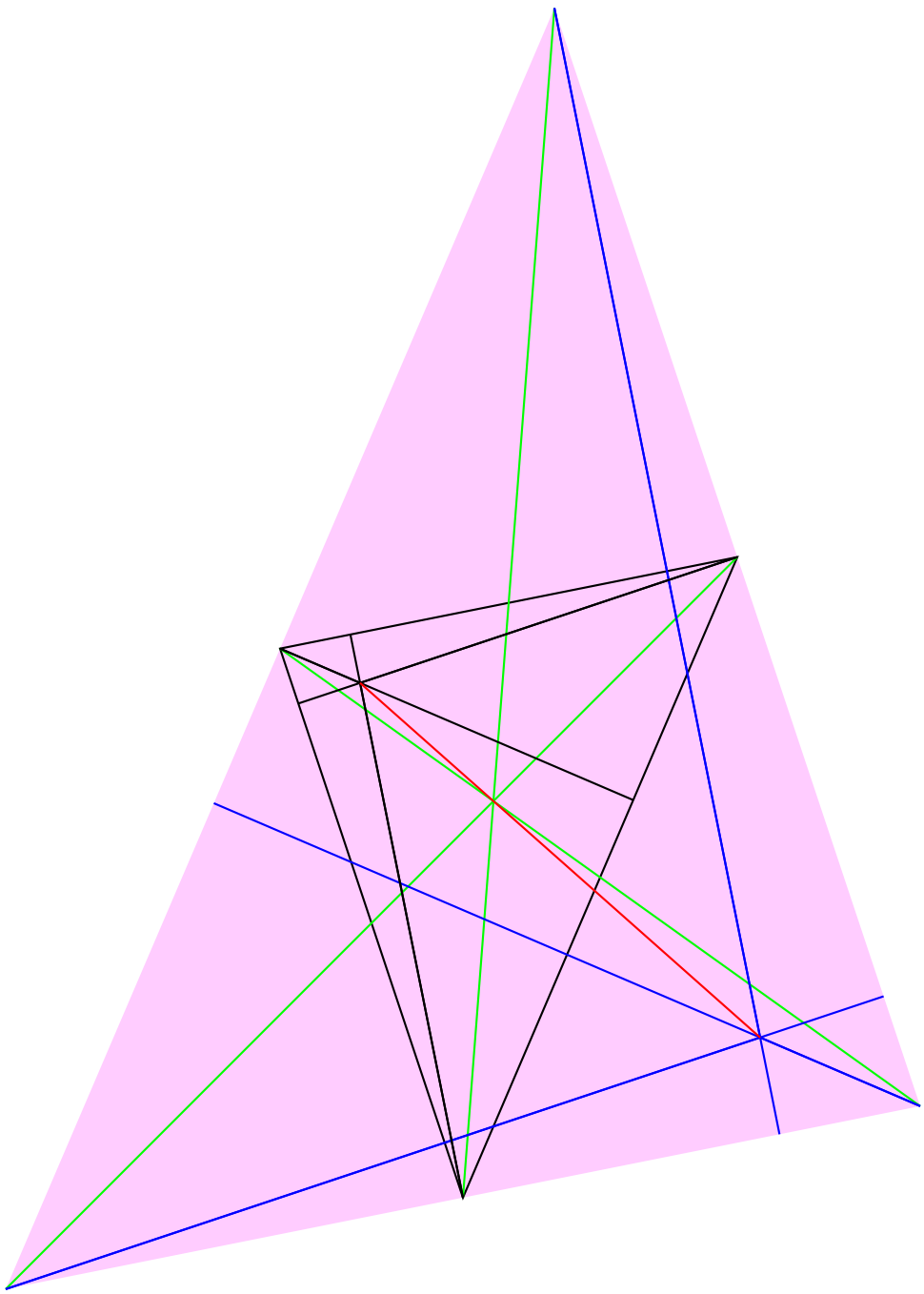
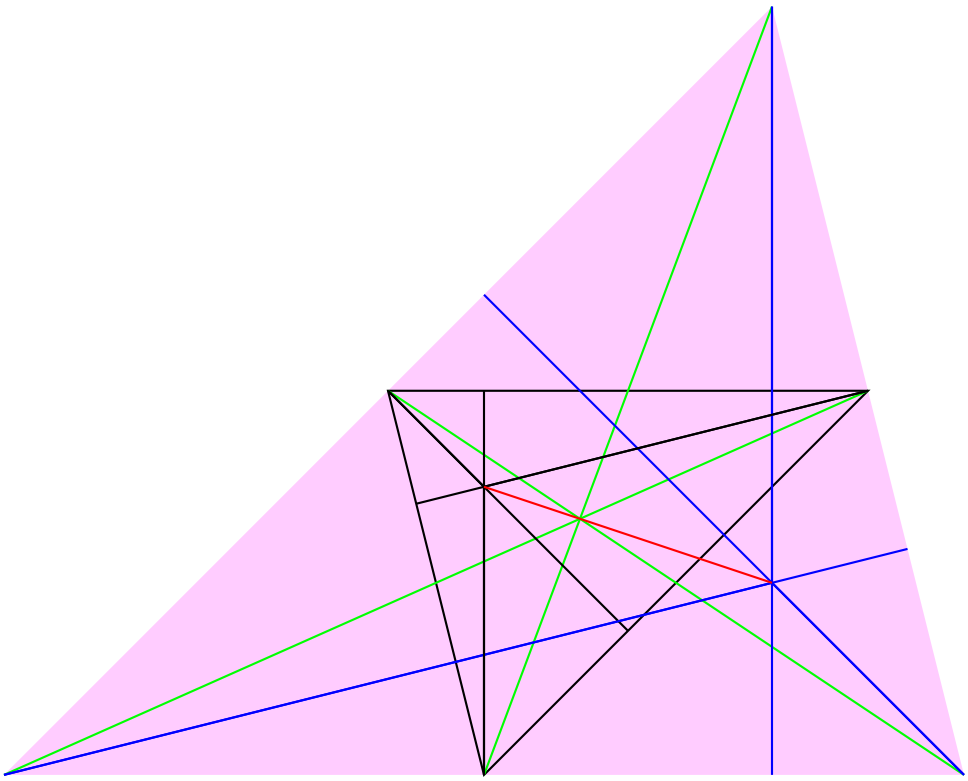

(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)


(4.25, 8.50)
(1.25, 5.50)
(7.25, 5.50)
(4.25, 2.50)