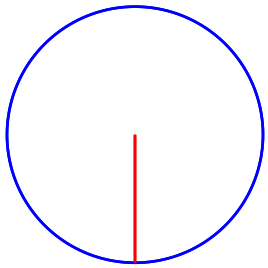
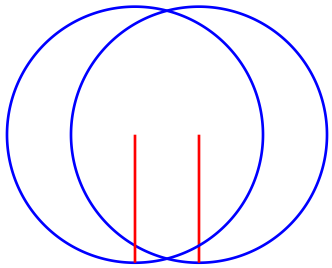
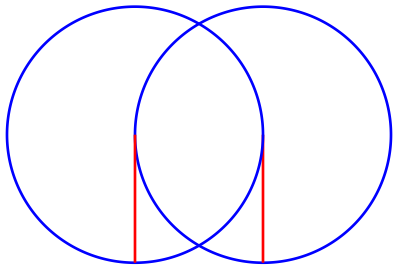
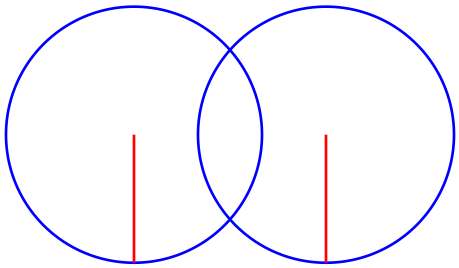
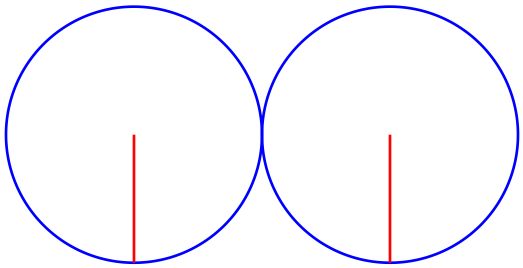
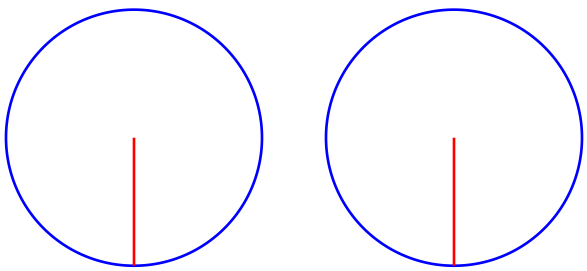


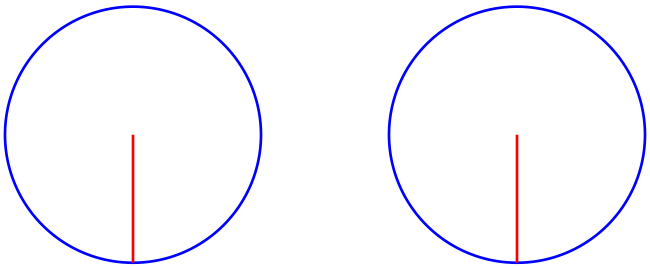


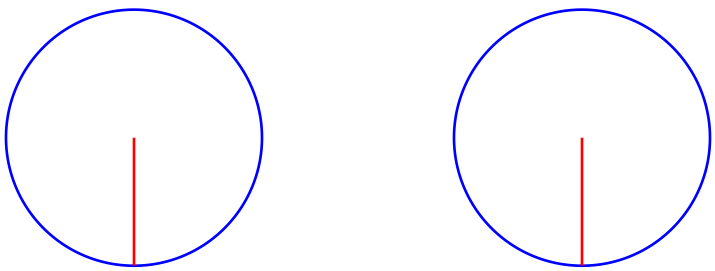


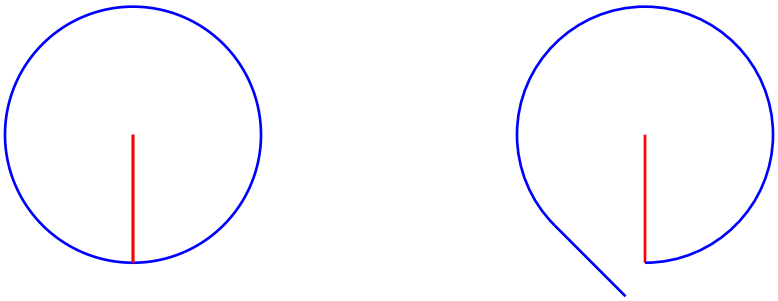


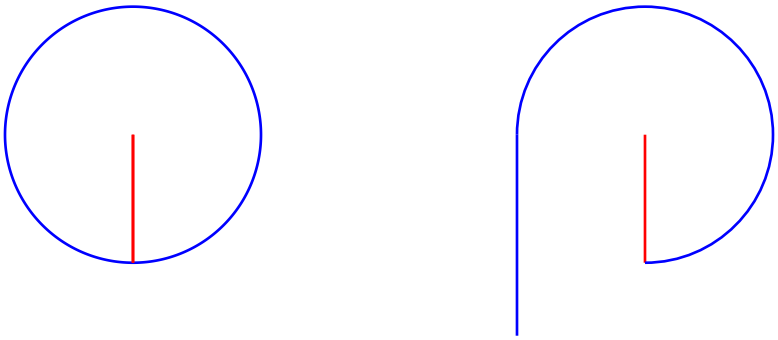


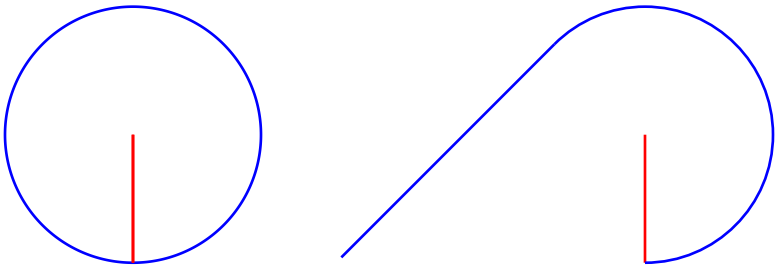


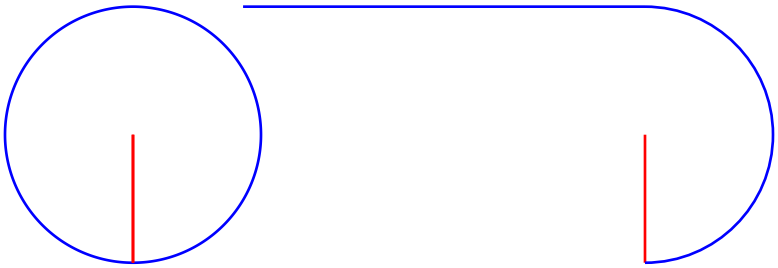


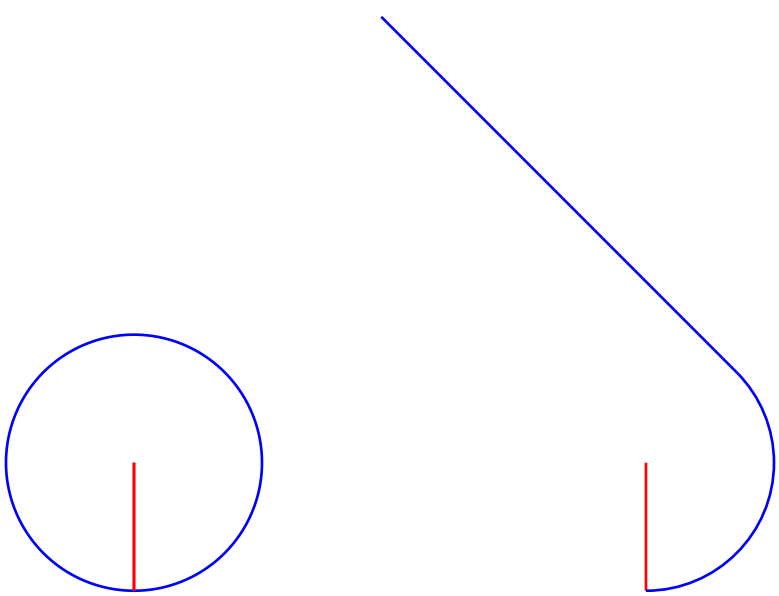


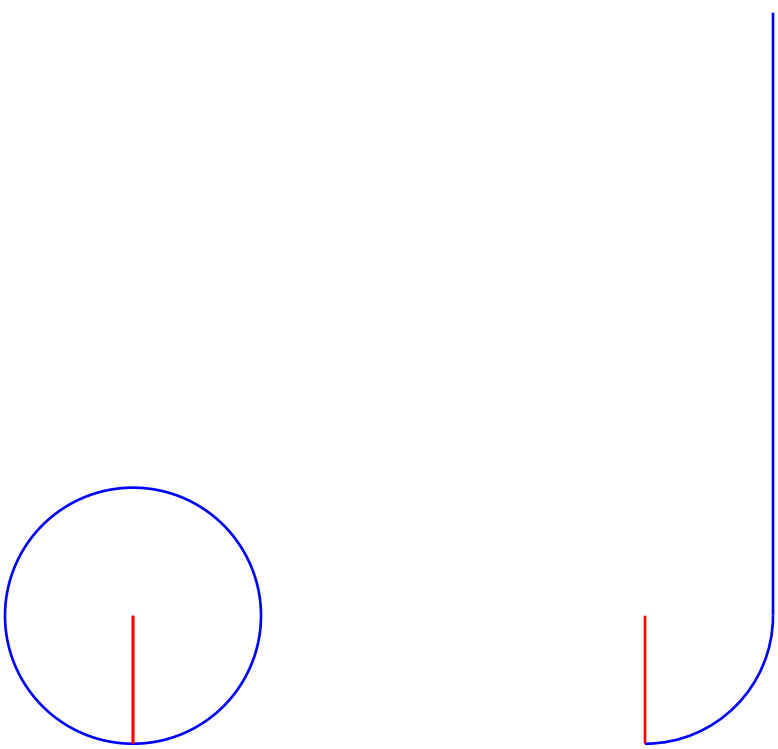


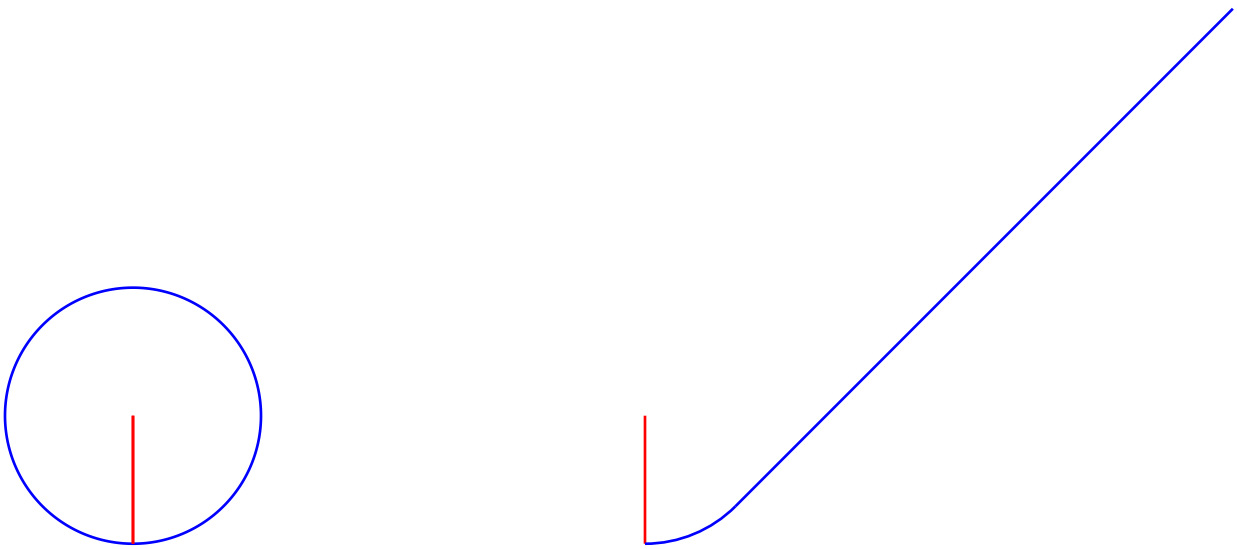


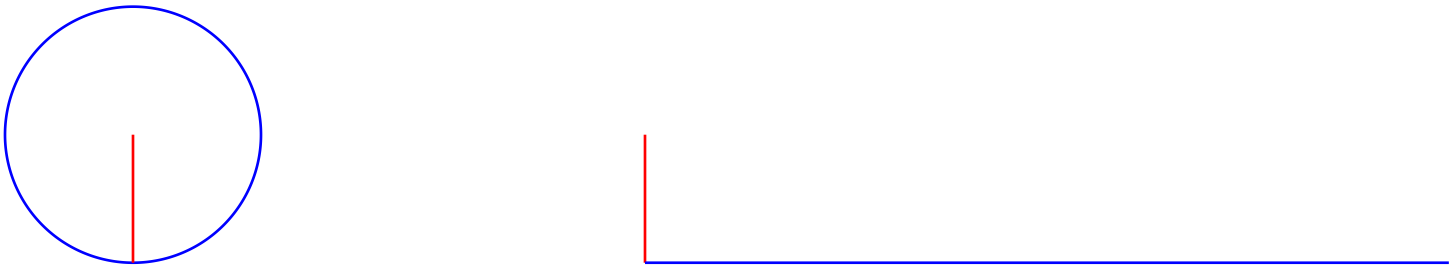






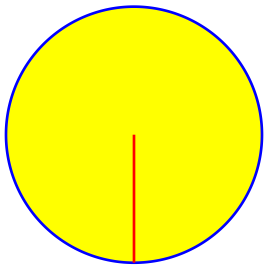






Archimedes: Measurement of a Circle

Proposition 1.



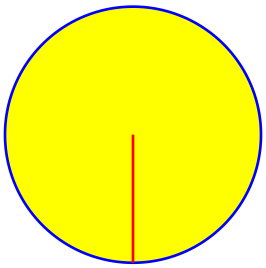
The area of any circle is equal to a right-angled triangle

in which one of the sides about the right angle is equal to

the radius, and the other to the circumference of the circle.

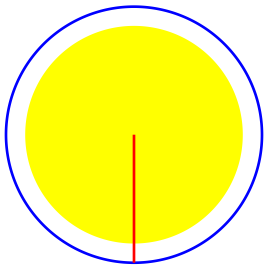
Proof:

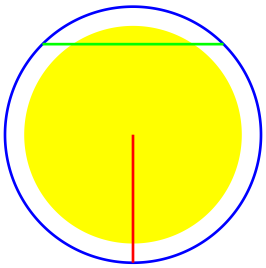
drawn by Oi-Lam Ng

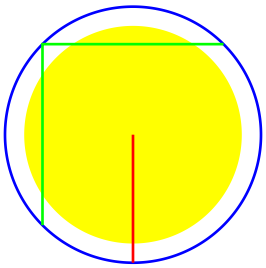


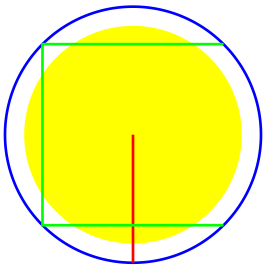
Enjoy!

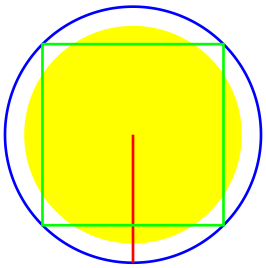
I. Let the area of the circle be greater than the triangle

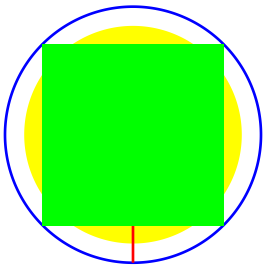


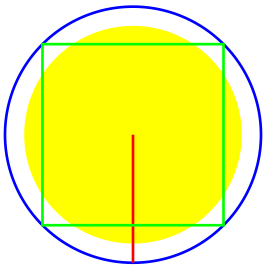


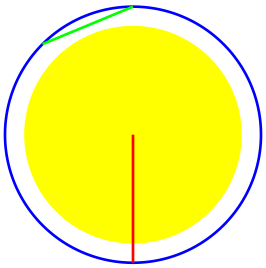


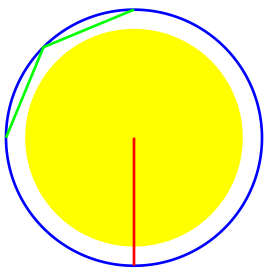


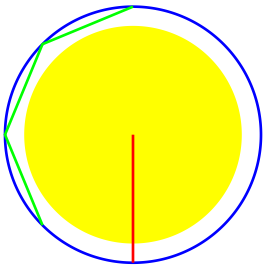


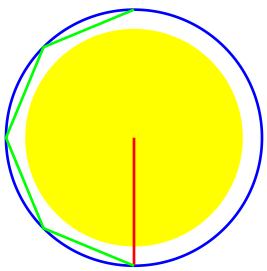


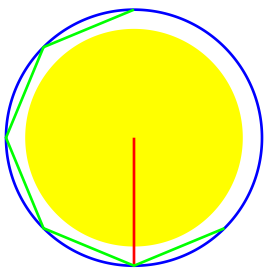


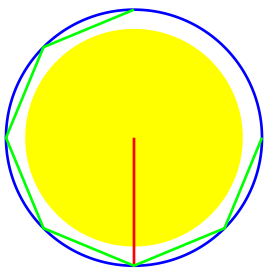


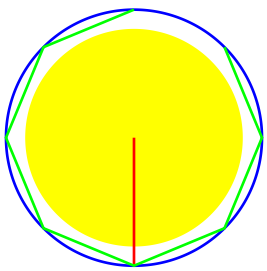


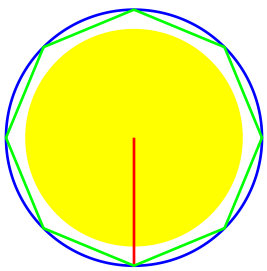


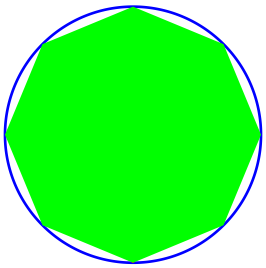


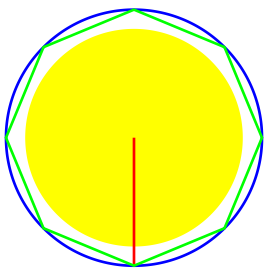


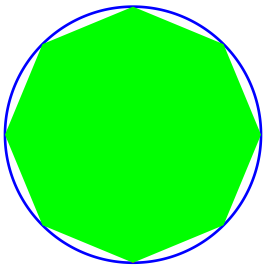


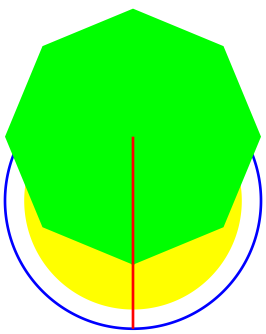


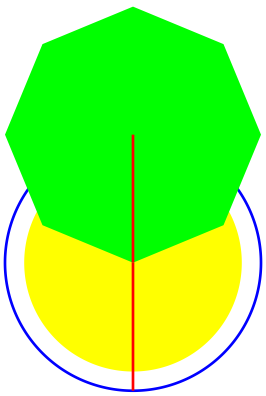


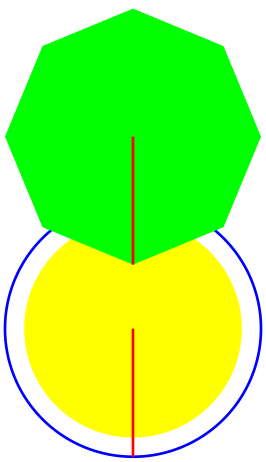


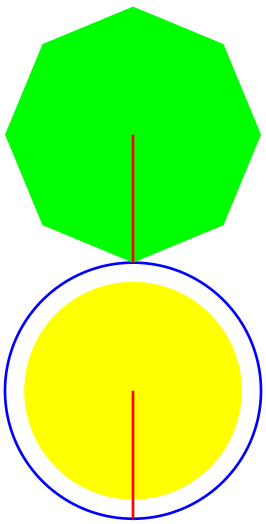


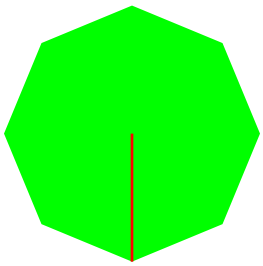


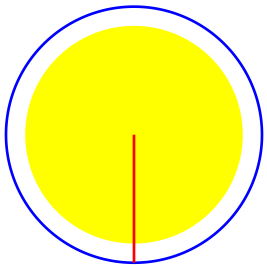


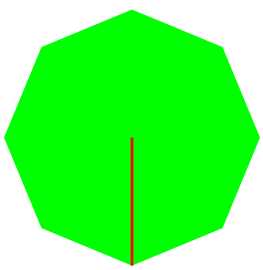


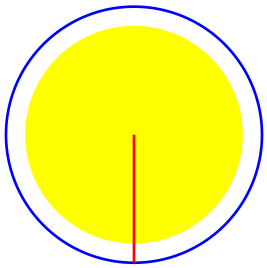


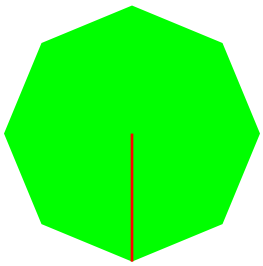


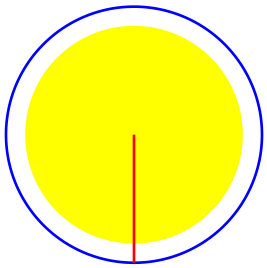


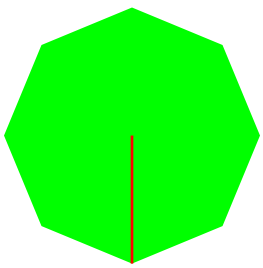


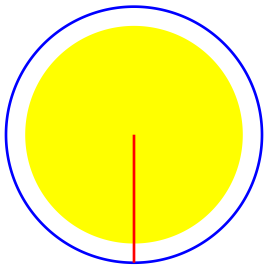


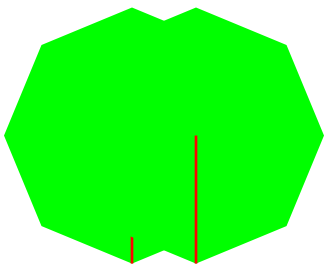


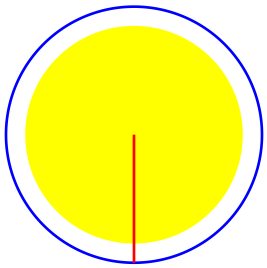


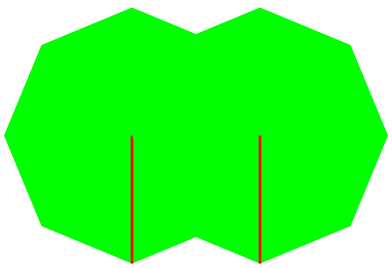


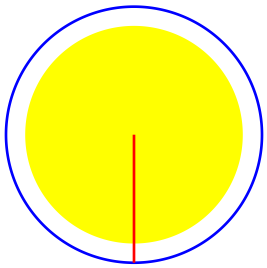


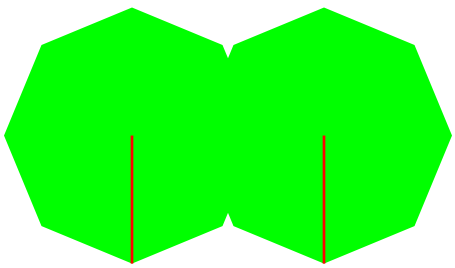


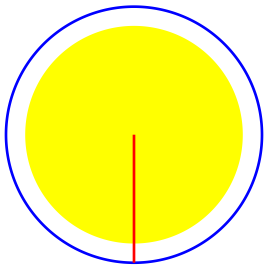


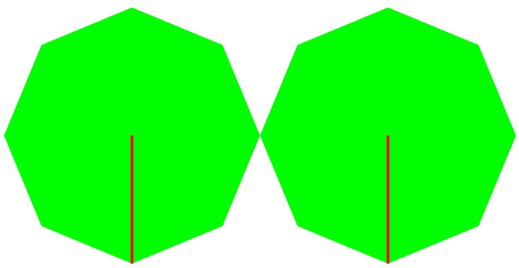


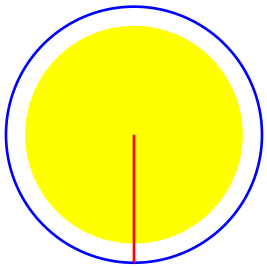


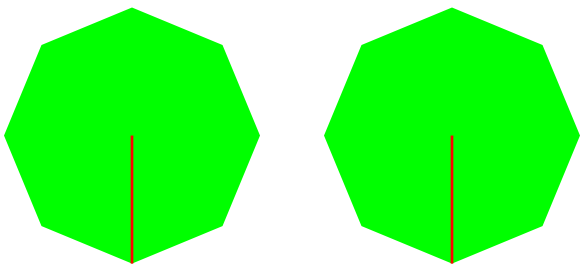


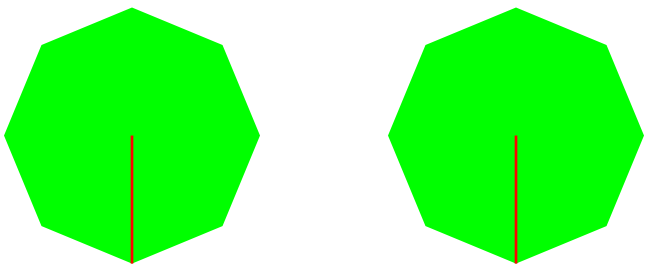


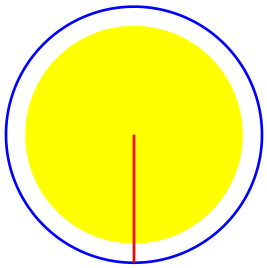


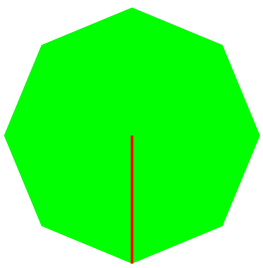


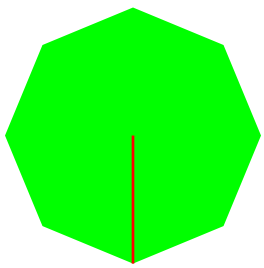


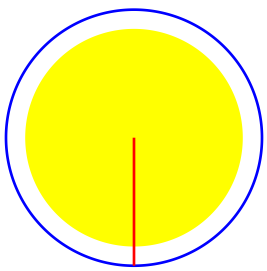


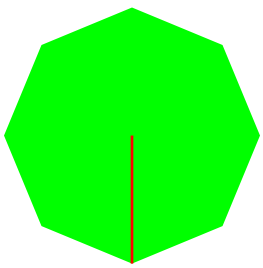


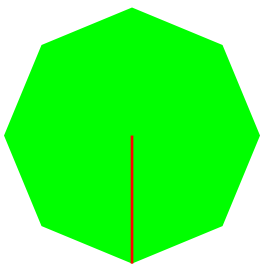


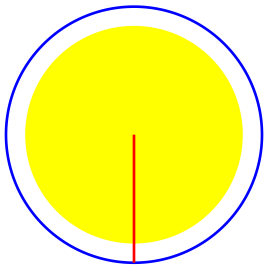


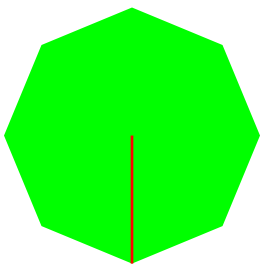


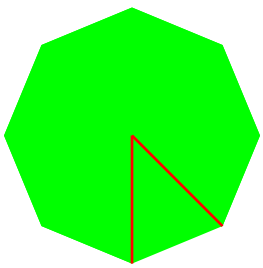


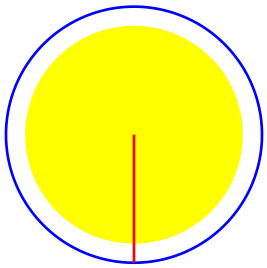


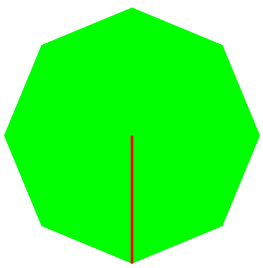


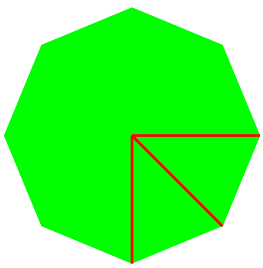


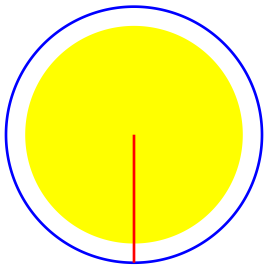


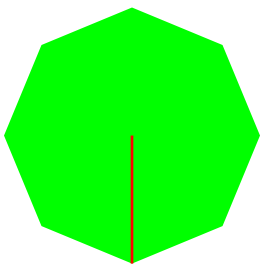


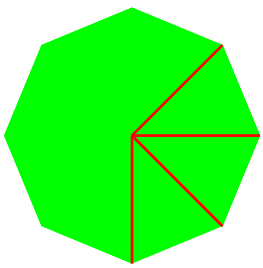


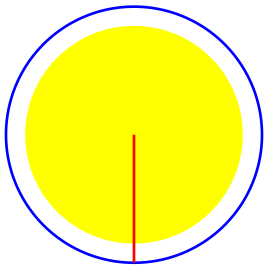


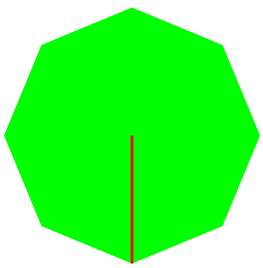


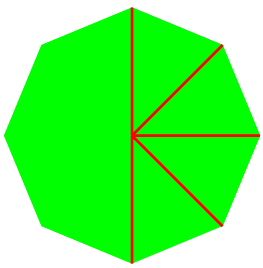


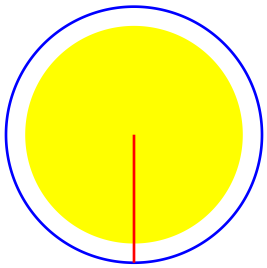


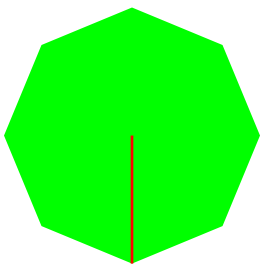


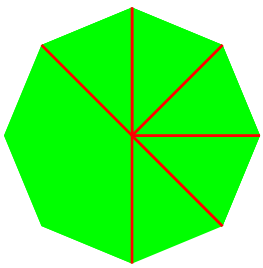


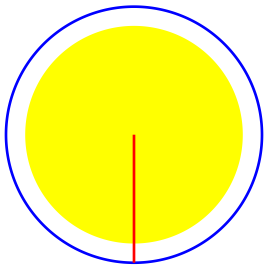


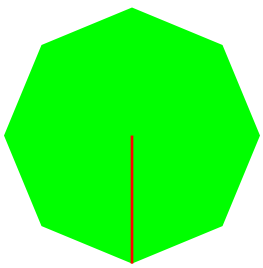


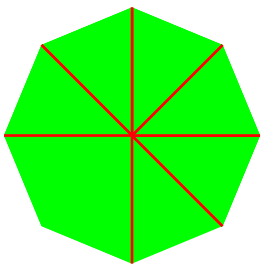


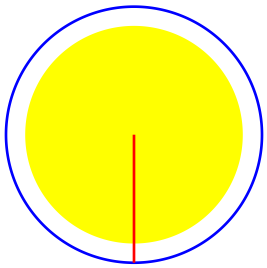


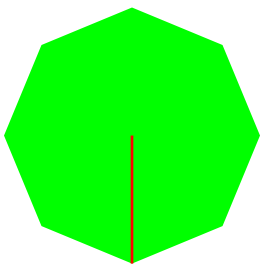


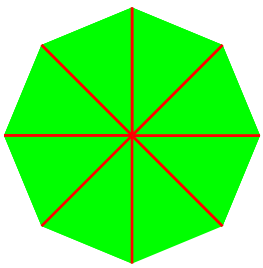


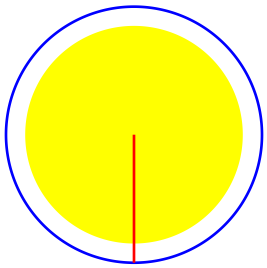


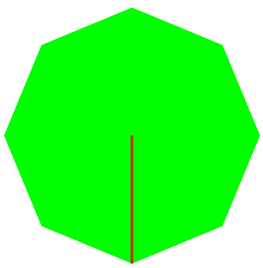


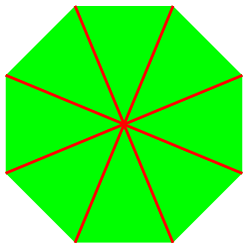


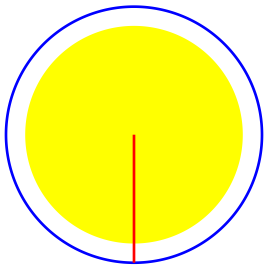


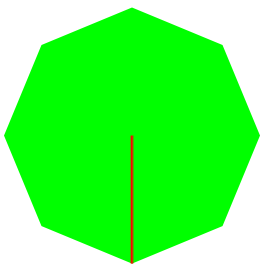


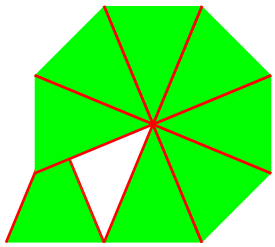


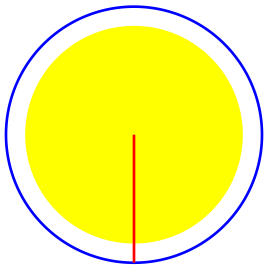


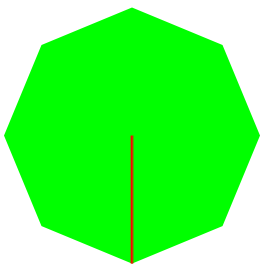


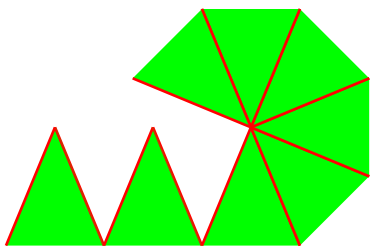


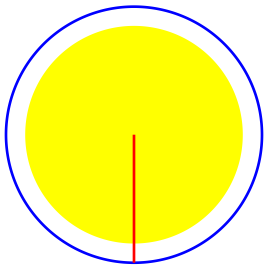


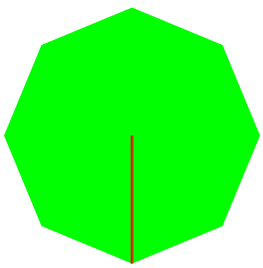


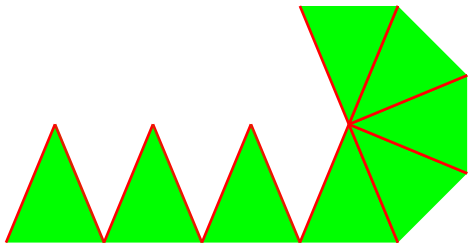


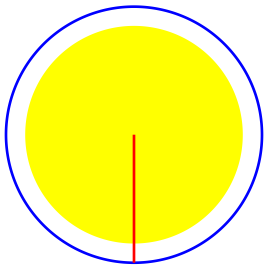


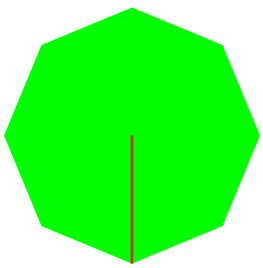


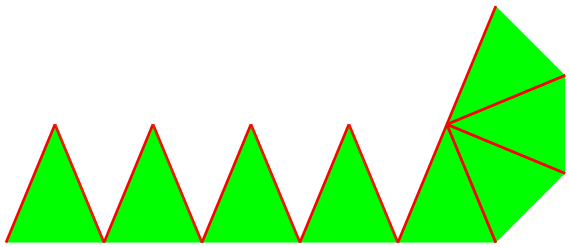


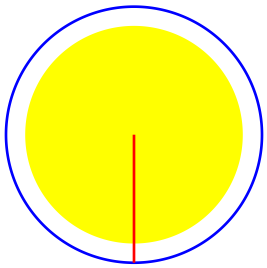


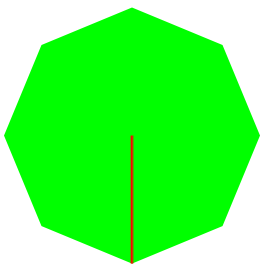


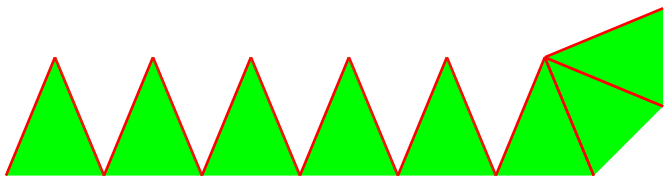


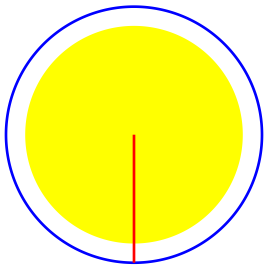


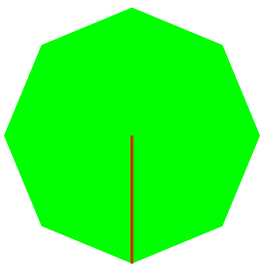


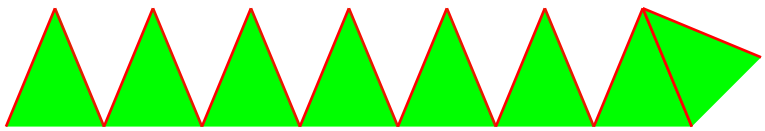


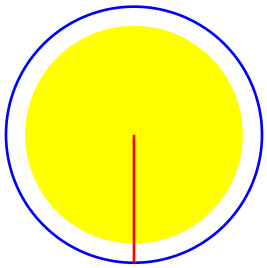


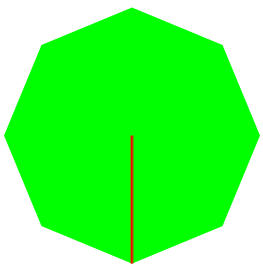


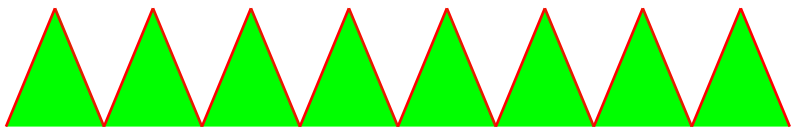


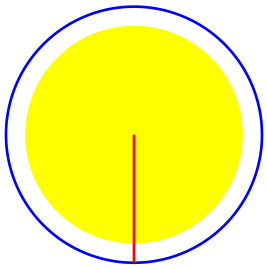


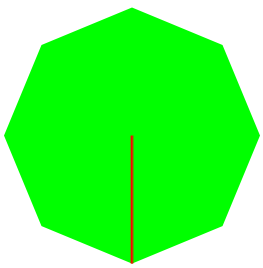


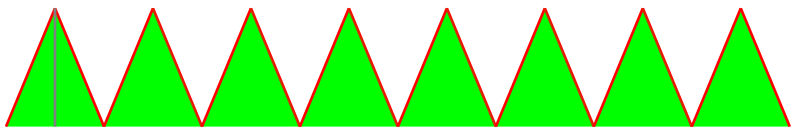


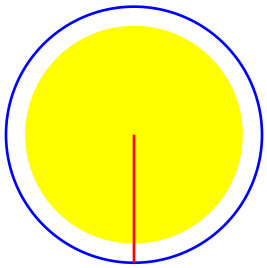


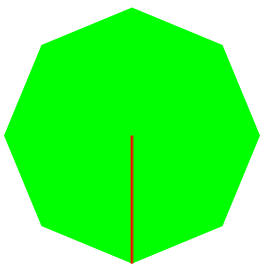


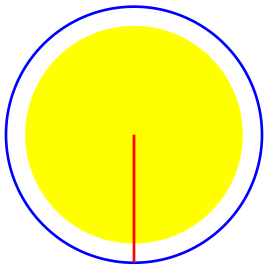


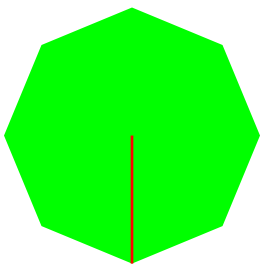


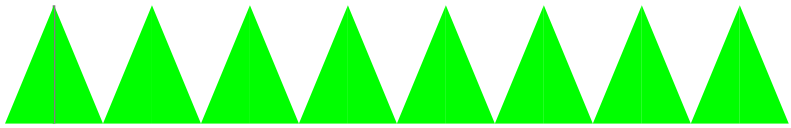


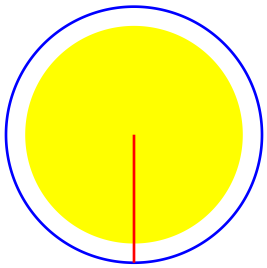


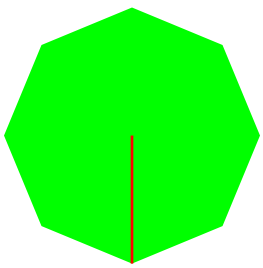


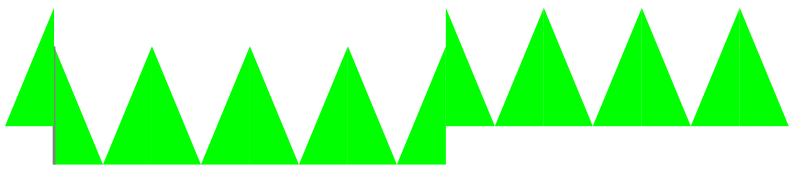


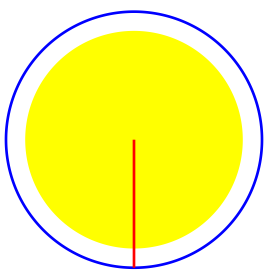


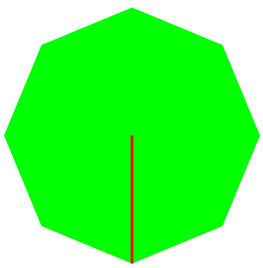


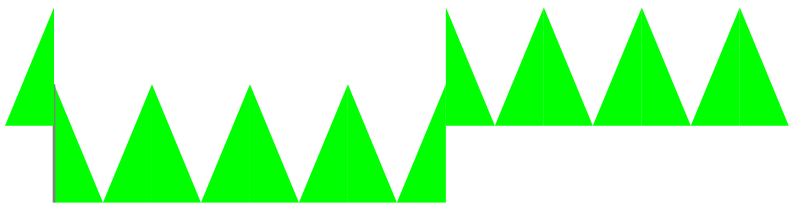


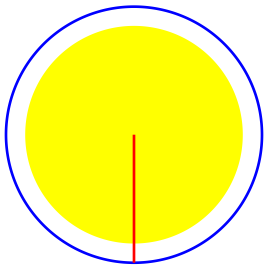


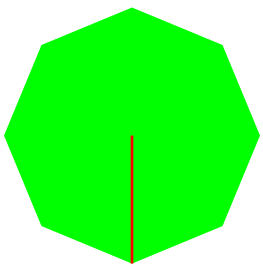


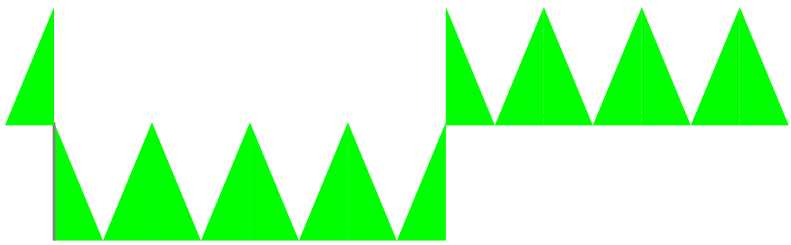


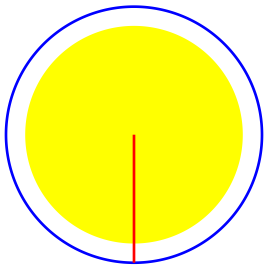


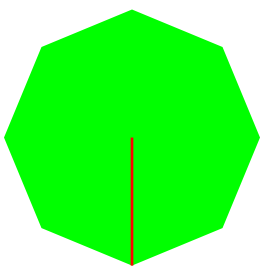


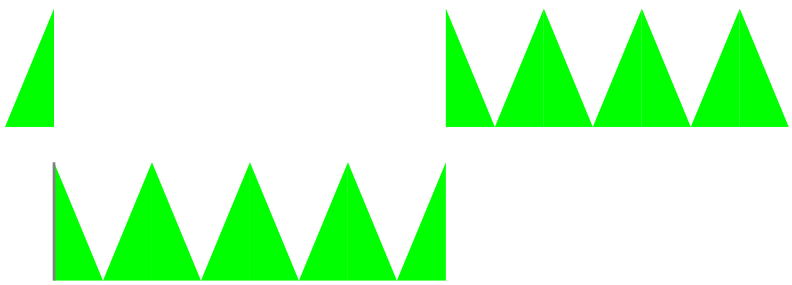


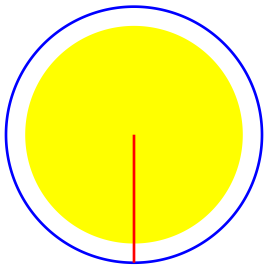


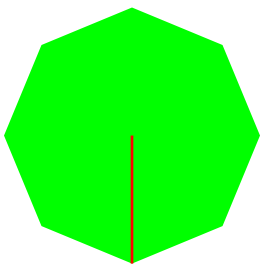


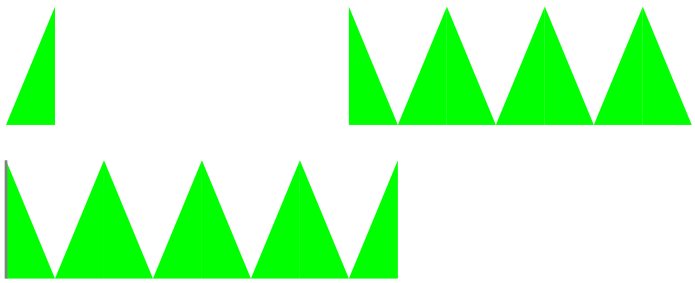


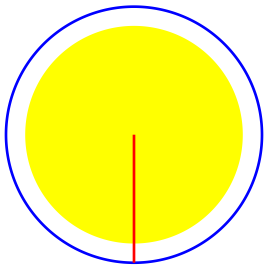


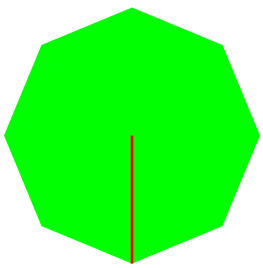


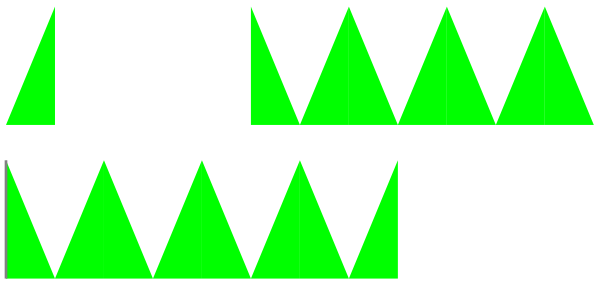


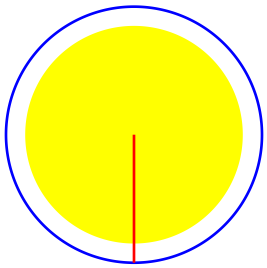


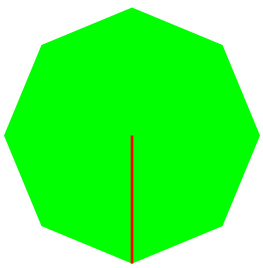


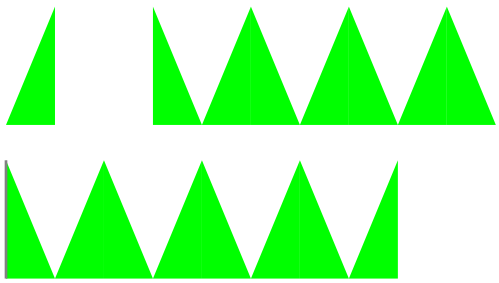


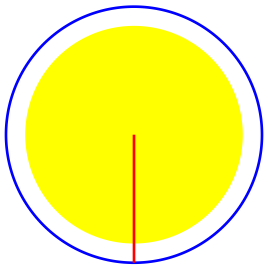


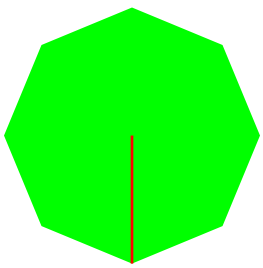


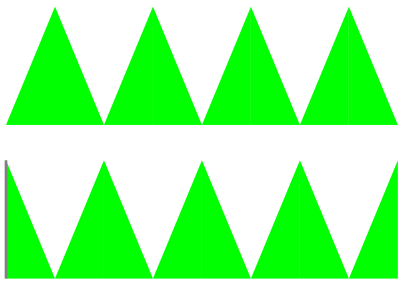


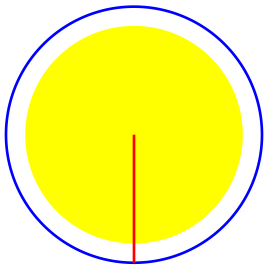


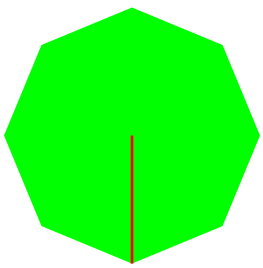


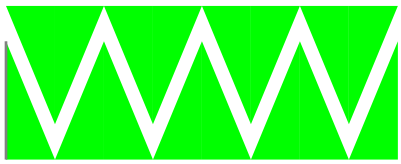


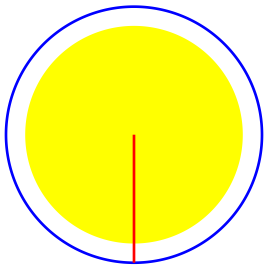


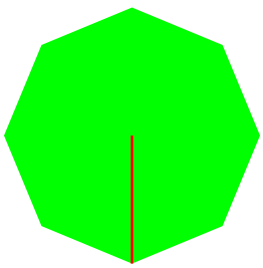


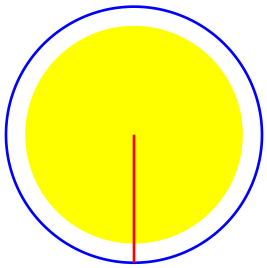


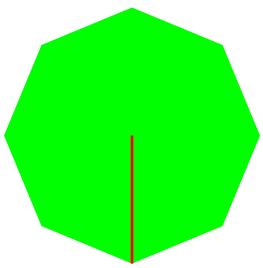


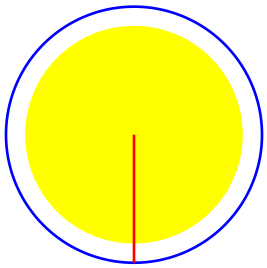


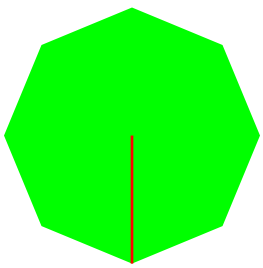


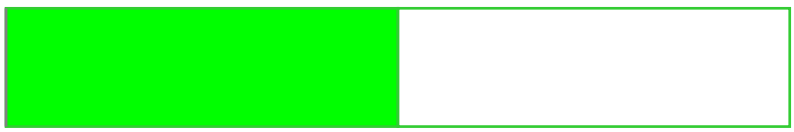


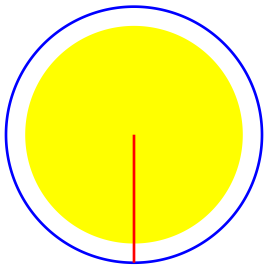


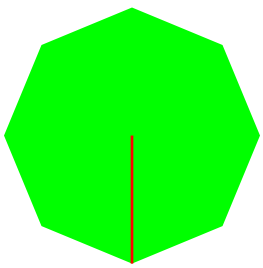


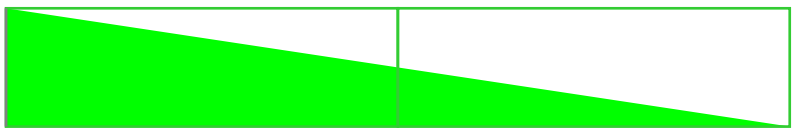


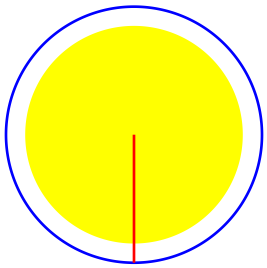


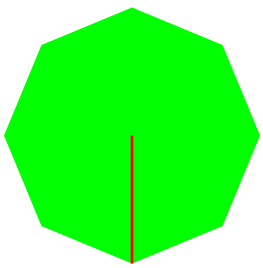


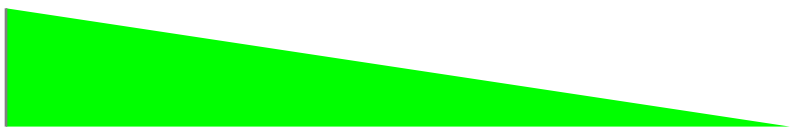


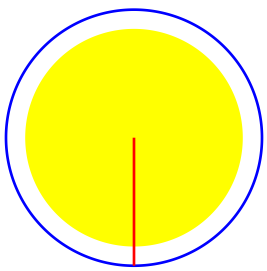


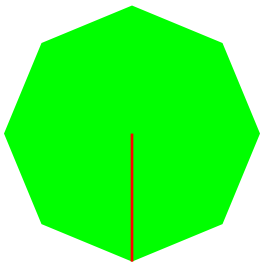


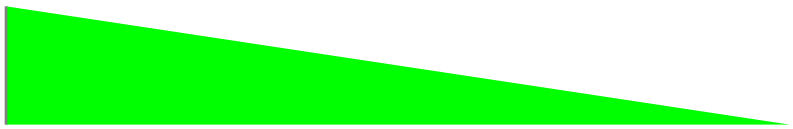


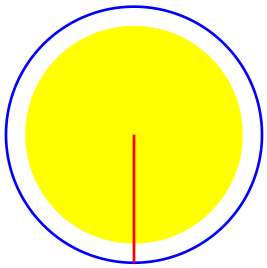


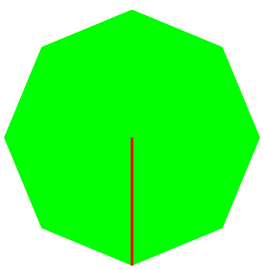


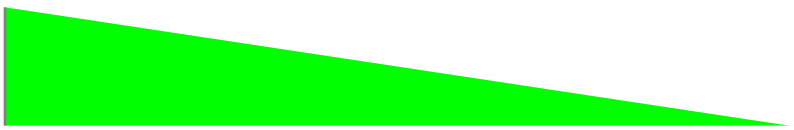


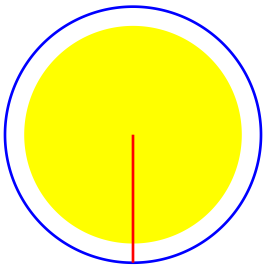


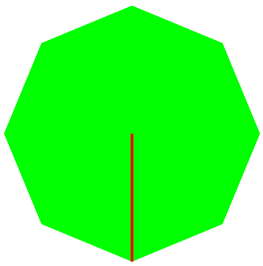


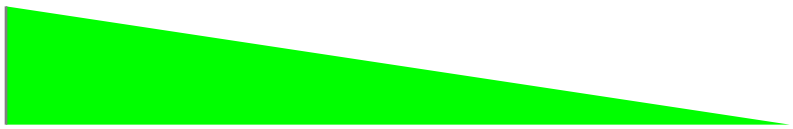


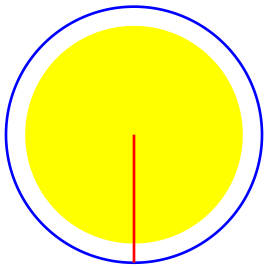


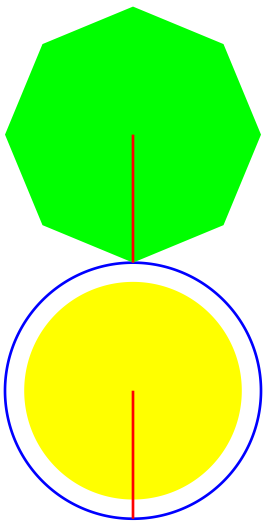


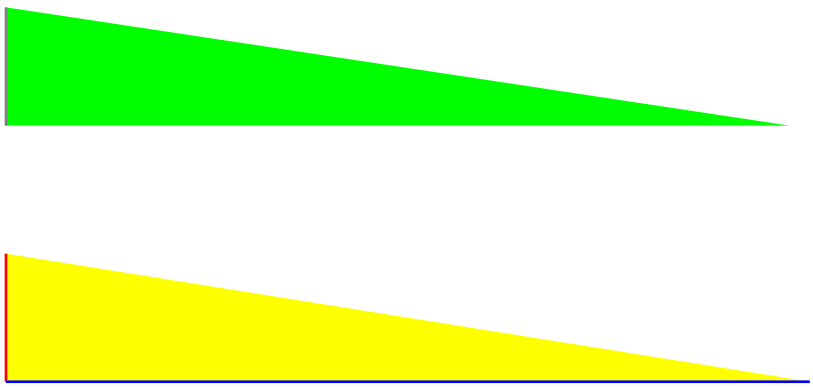


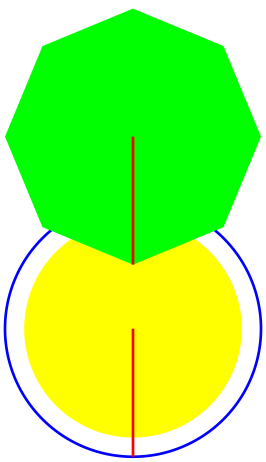


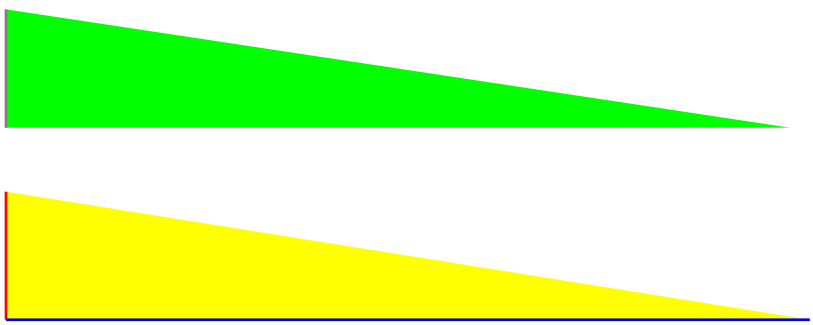


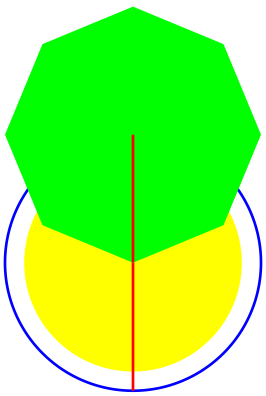


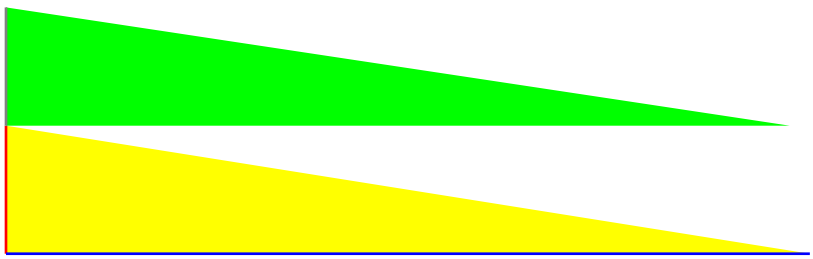


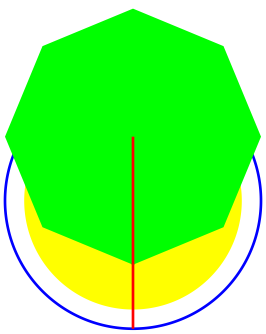


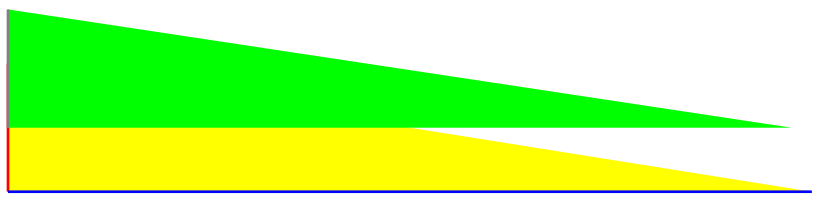


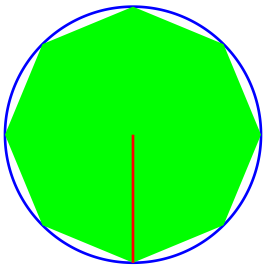


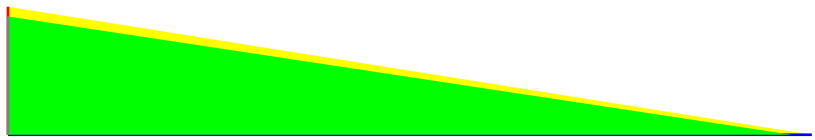






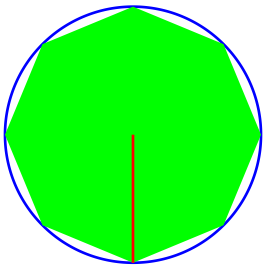


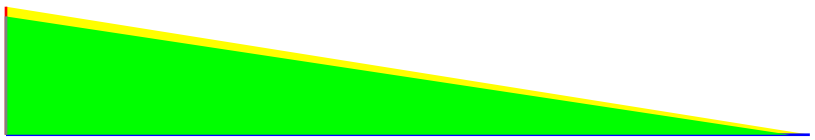




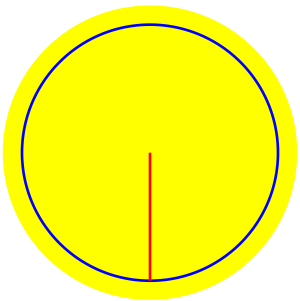
Absurd!!!

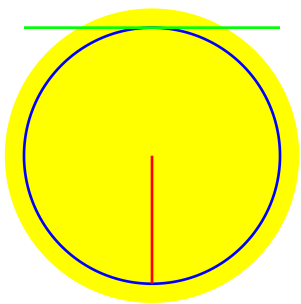
Thus, the area of the circle is not greater than the circle!

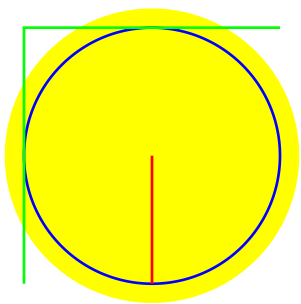


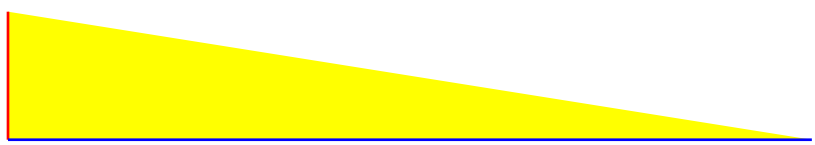


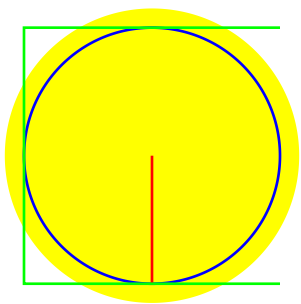
II. Let the area of the circle be less than the triangle

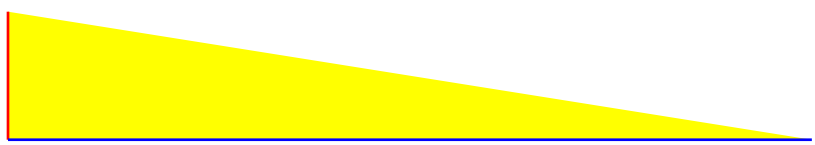


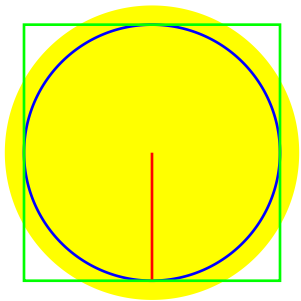


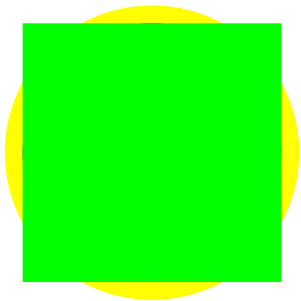


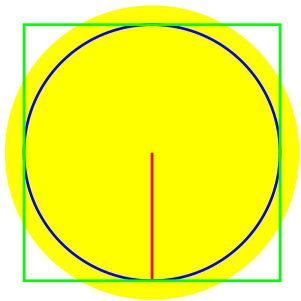


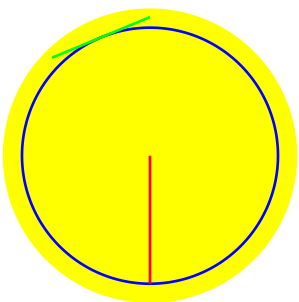


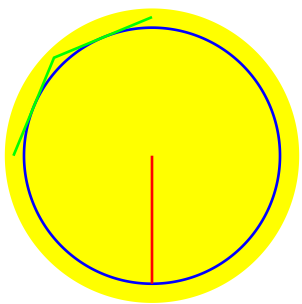


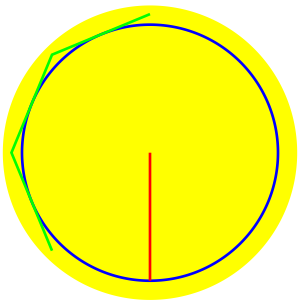


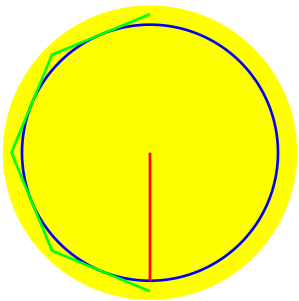


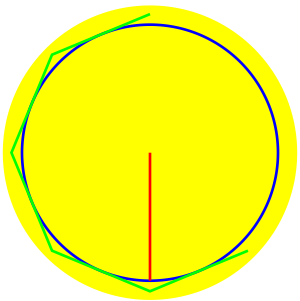


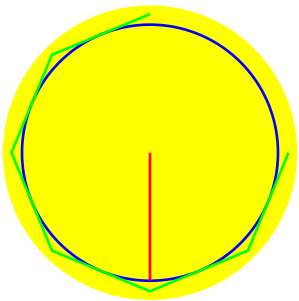


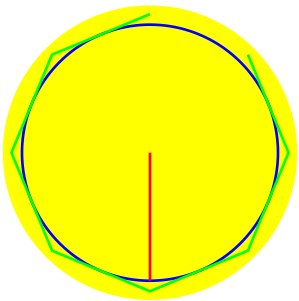


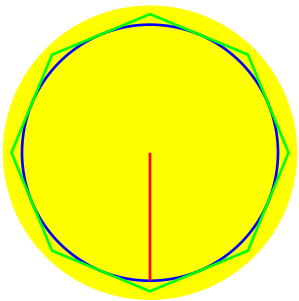


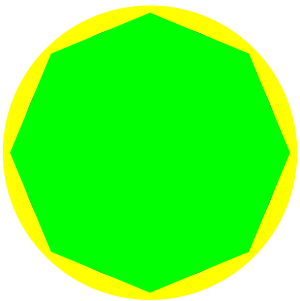


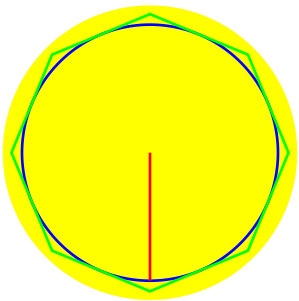


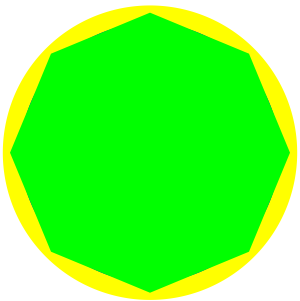


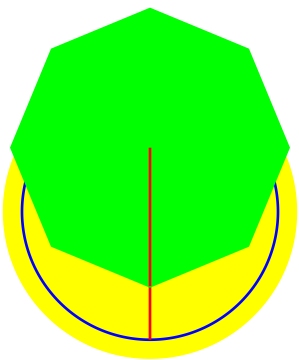


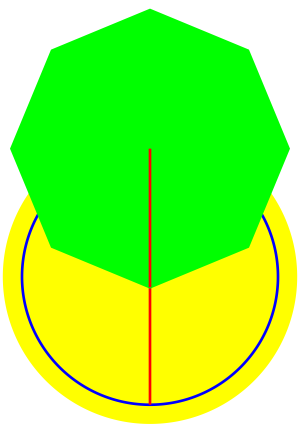


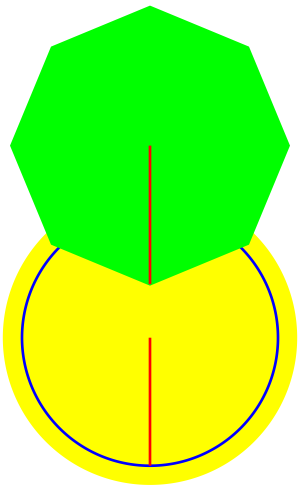


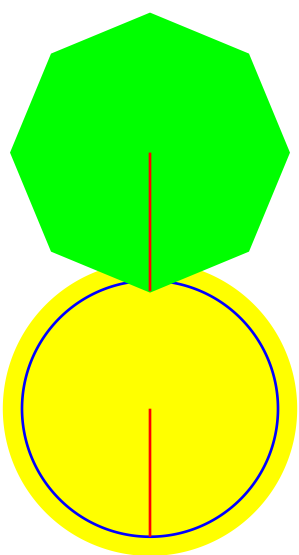


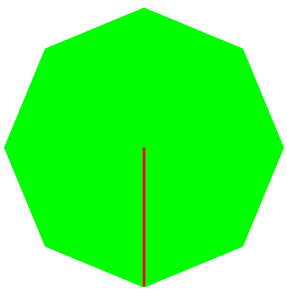


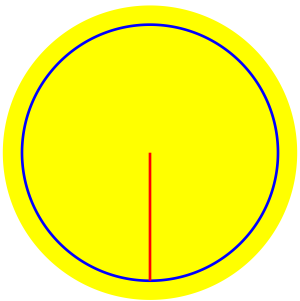


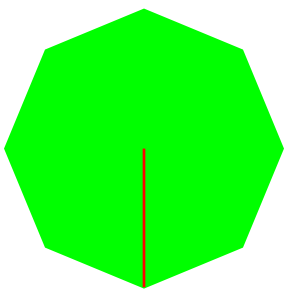


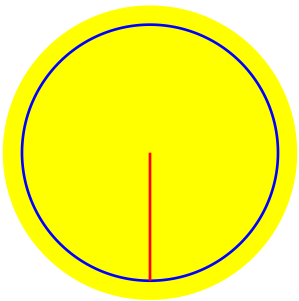


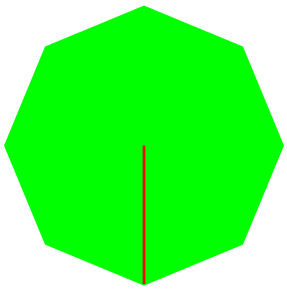


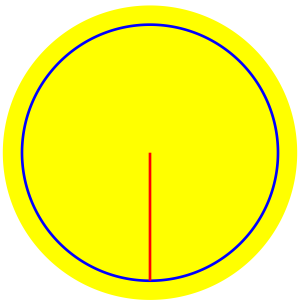


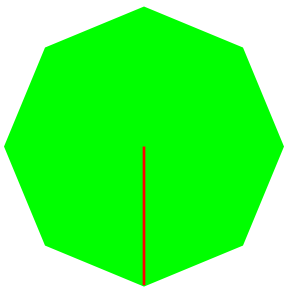


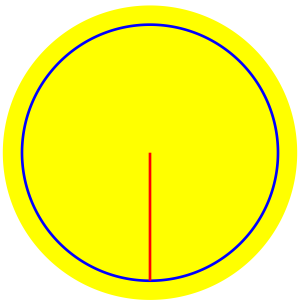


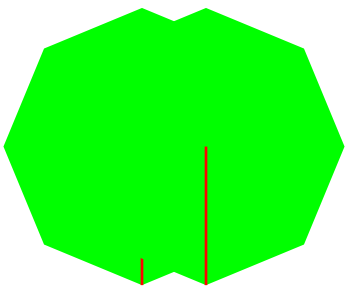


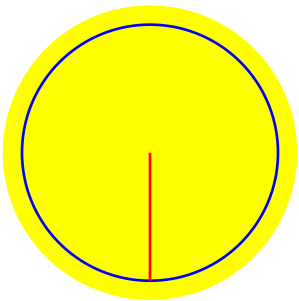


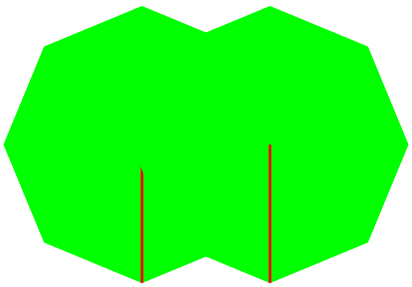


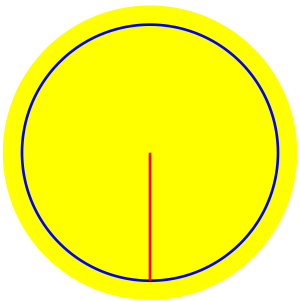


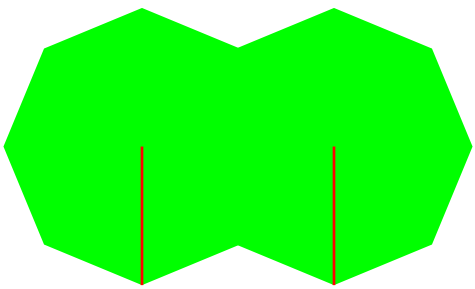


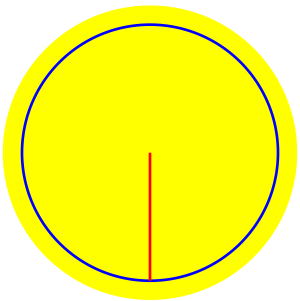


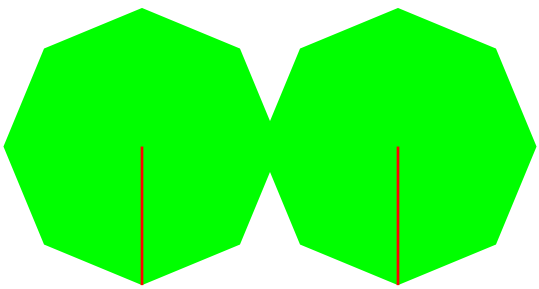


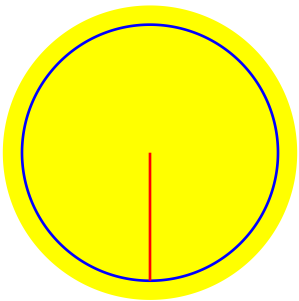


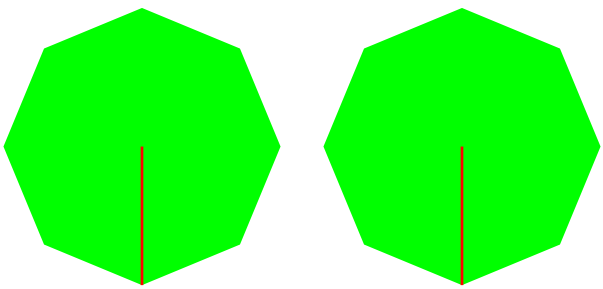


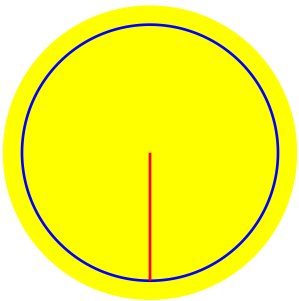


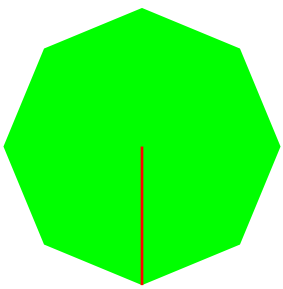


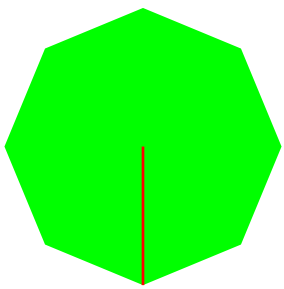


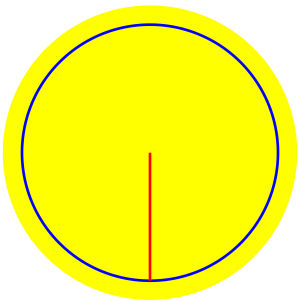


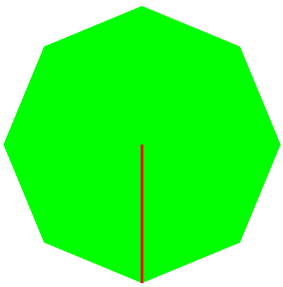


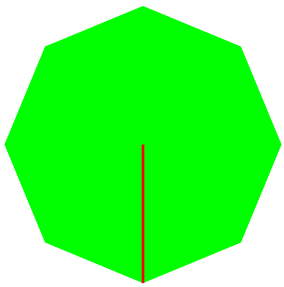


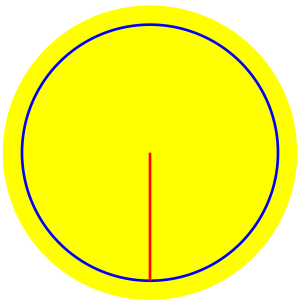


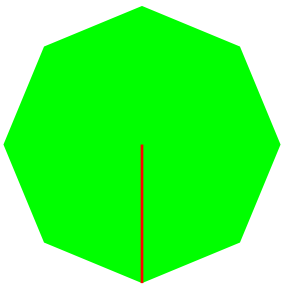


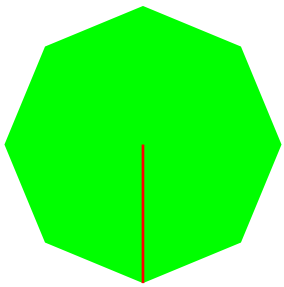


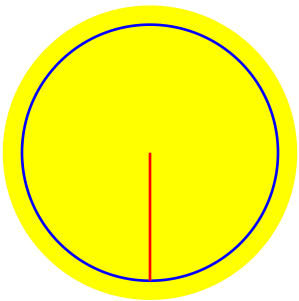


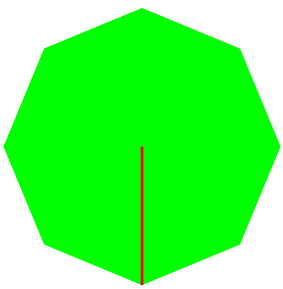


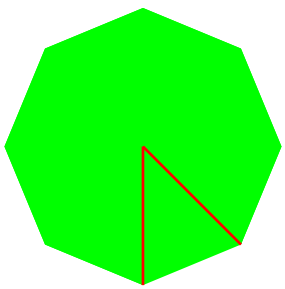


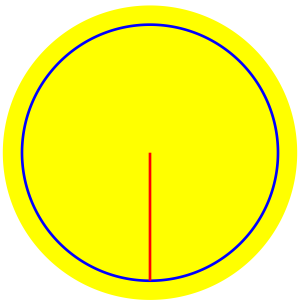


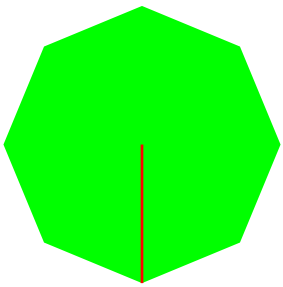


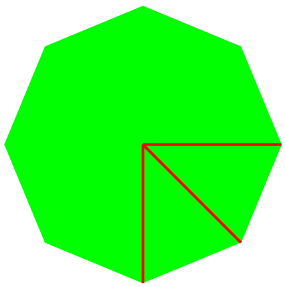


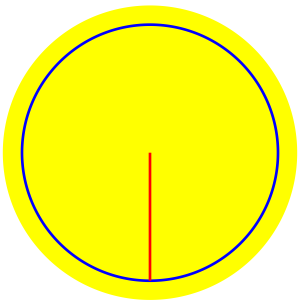


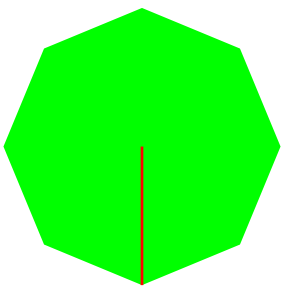


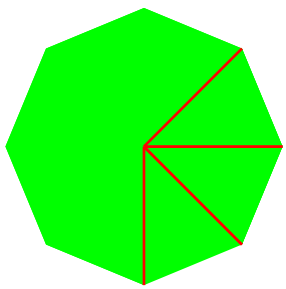


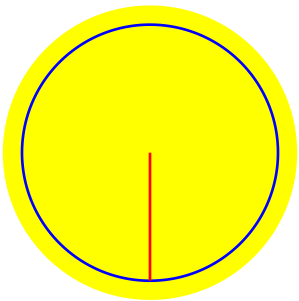


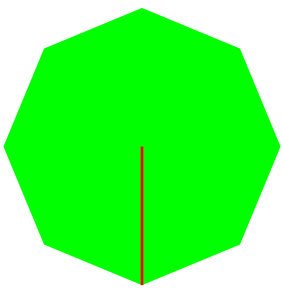


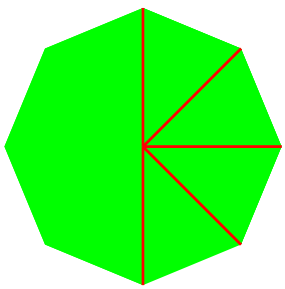


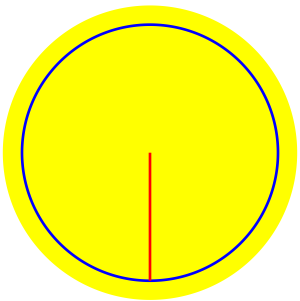


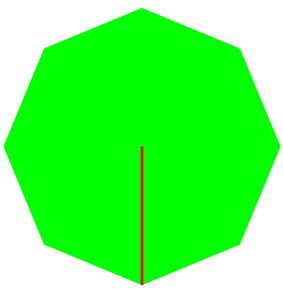


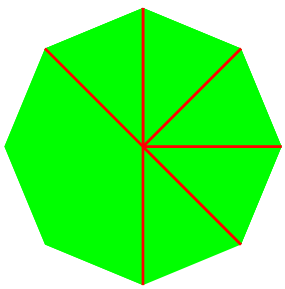


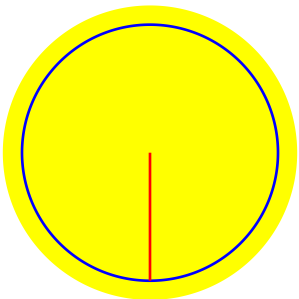


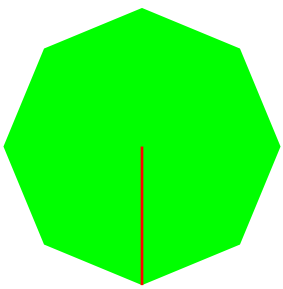


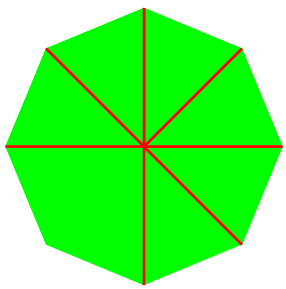


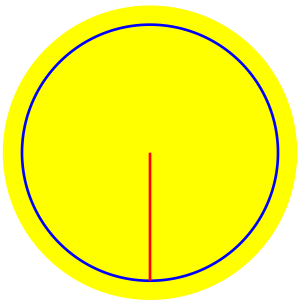


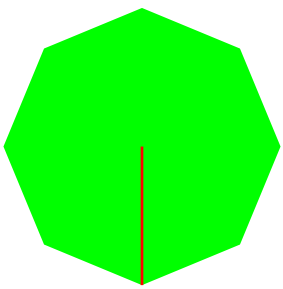


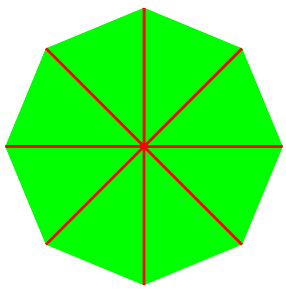


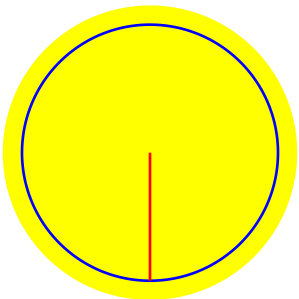


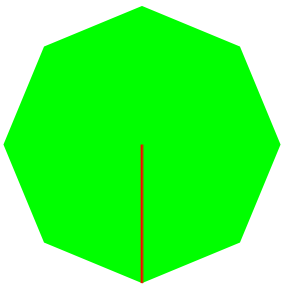


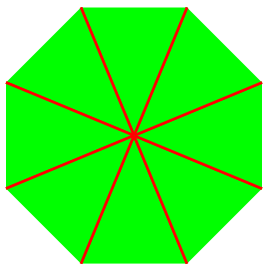


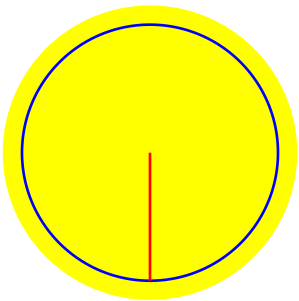


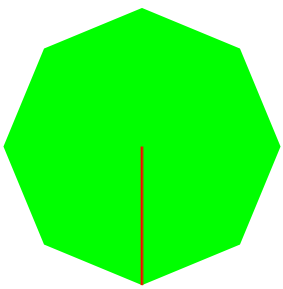


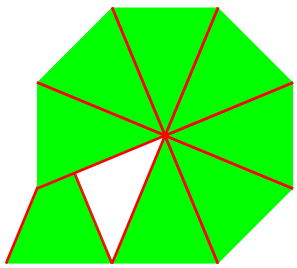


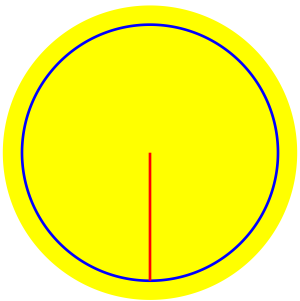


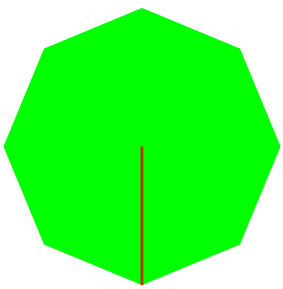


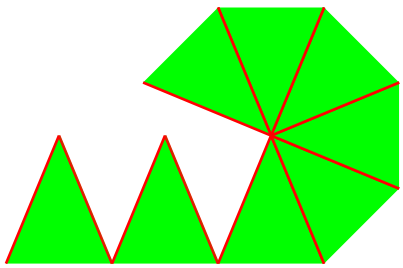


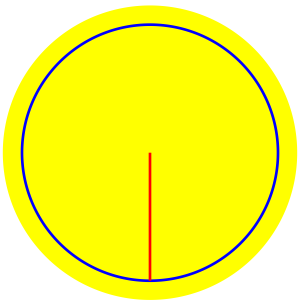


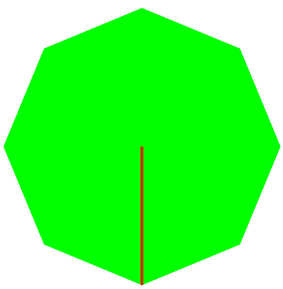


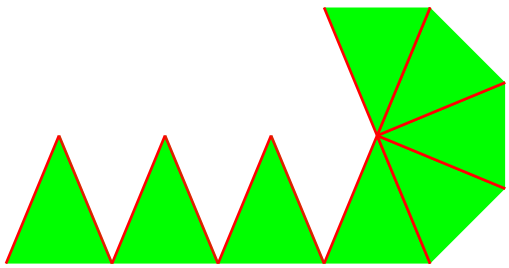


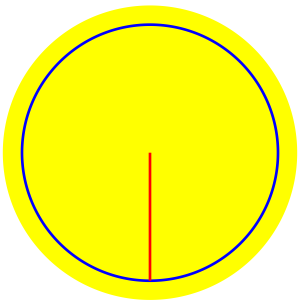


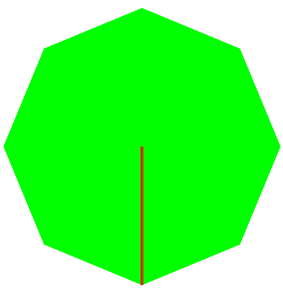


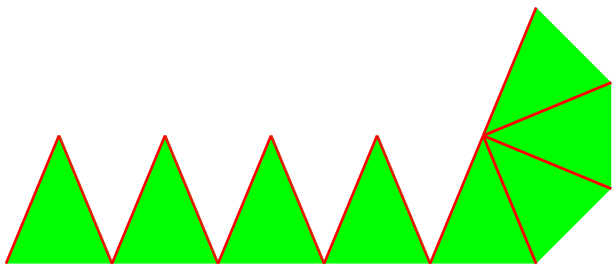


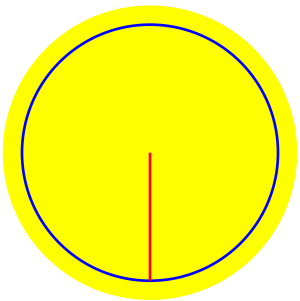


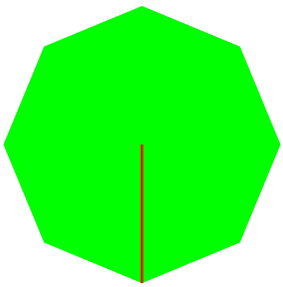


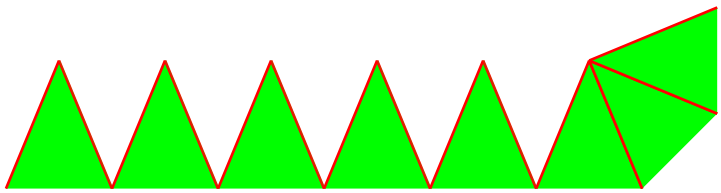


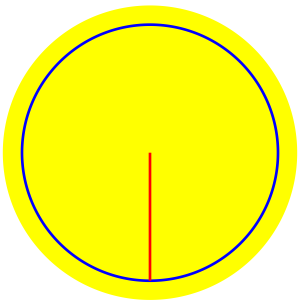


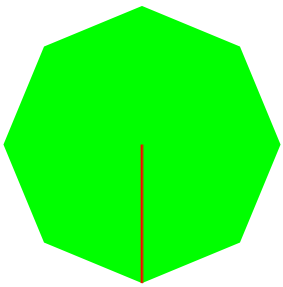


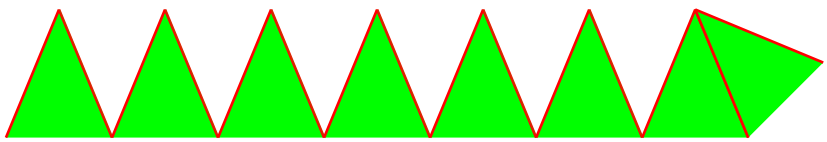


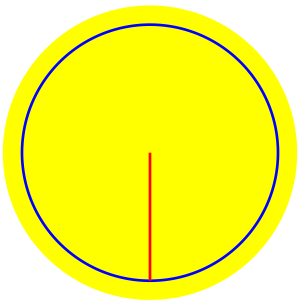


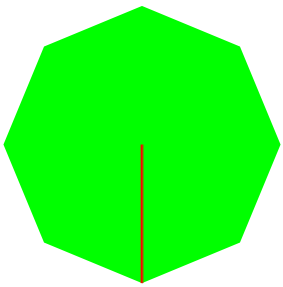


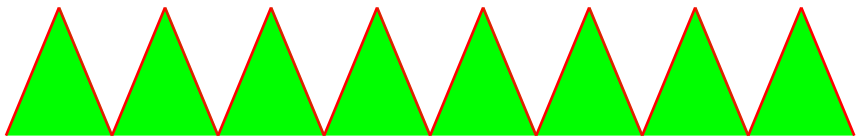


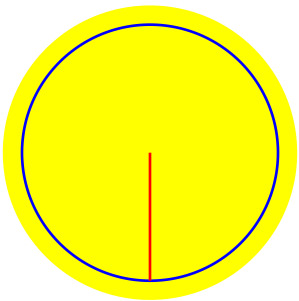


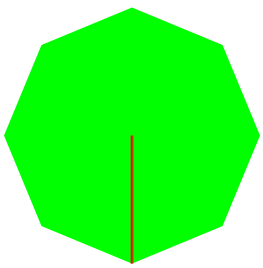


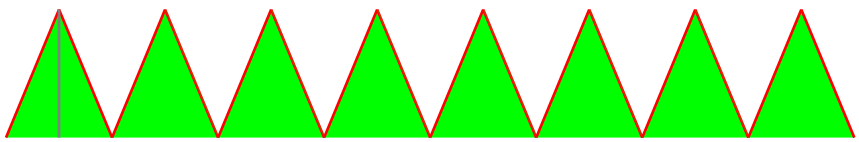


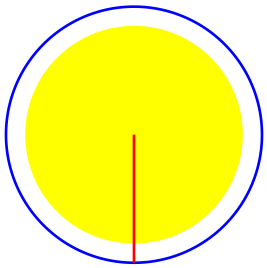


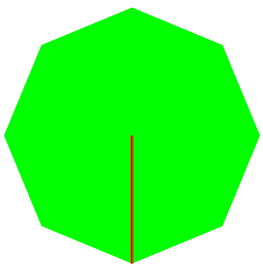


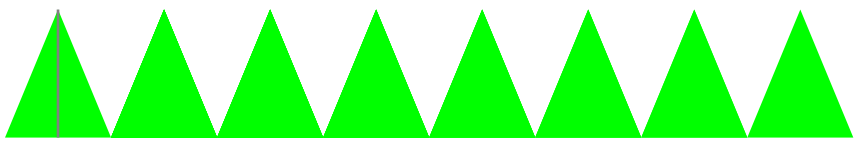


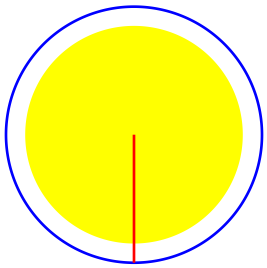


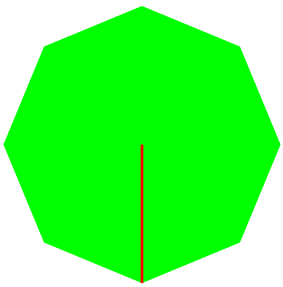


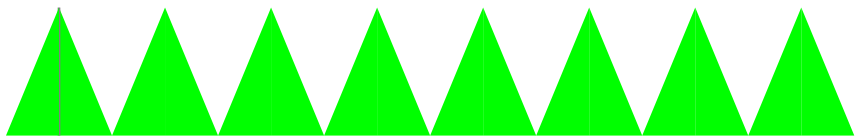


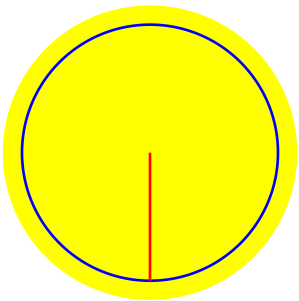


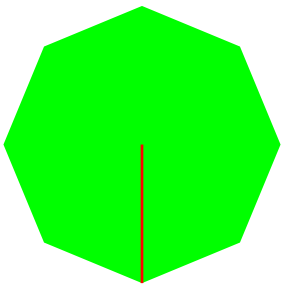


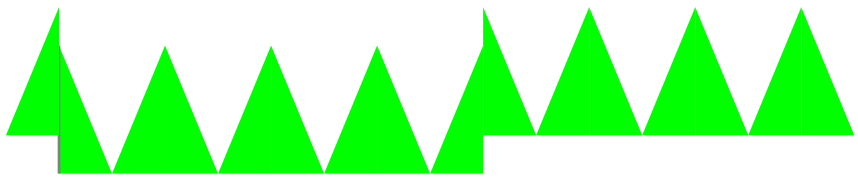


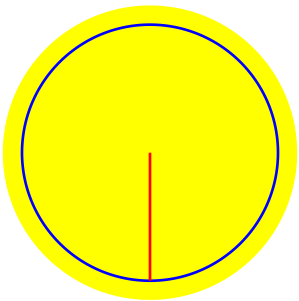


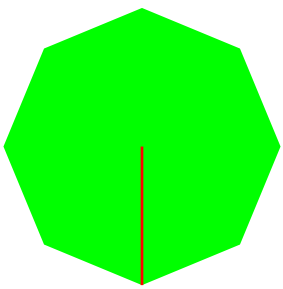


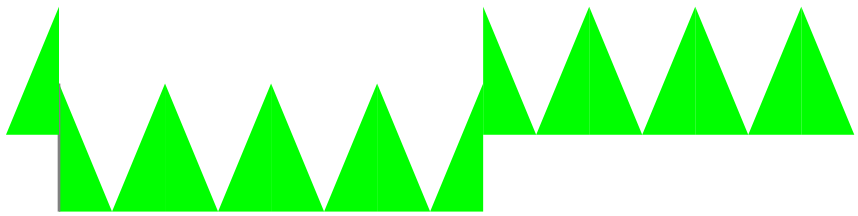


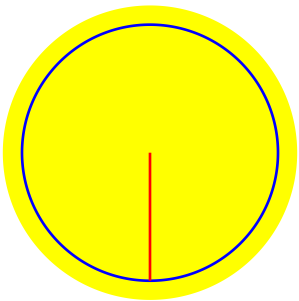


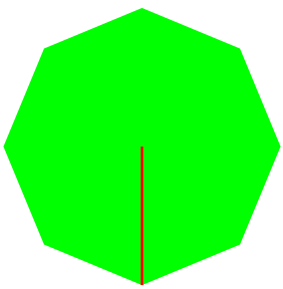


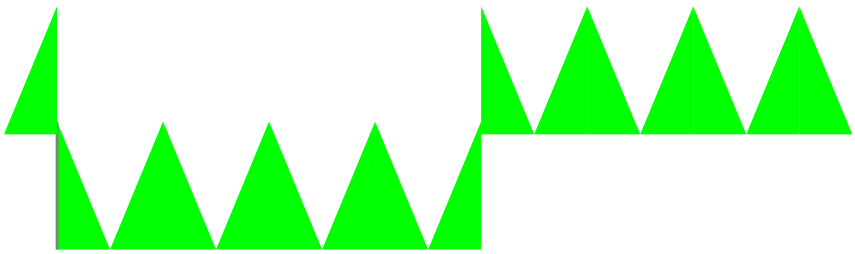


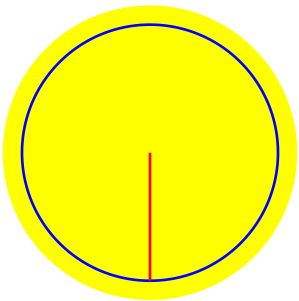


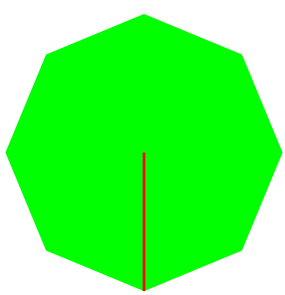


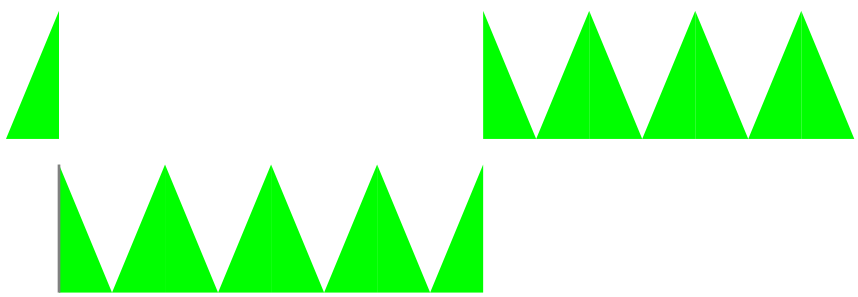


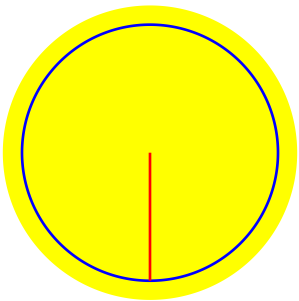


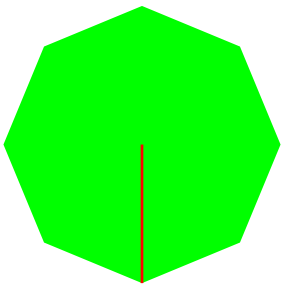


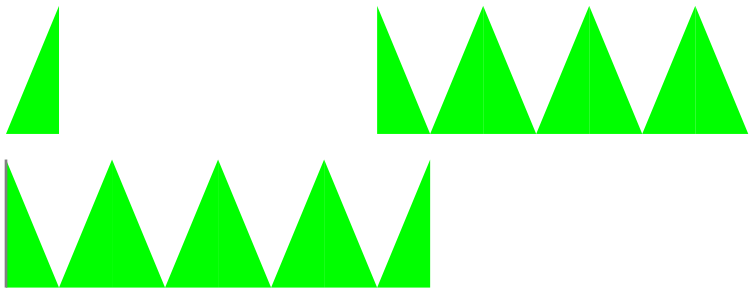


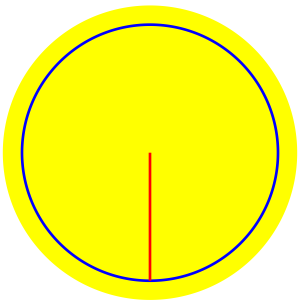


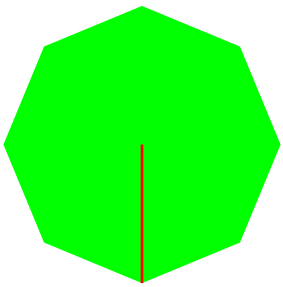


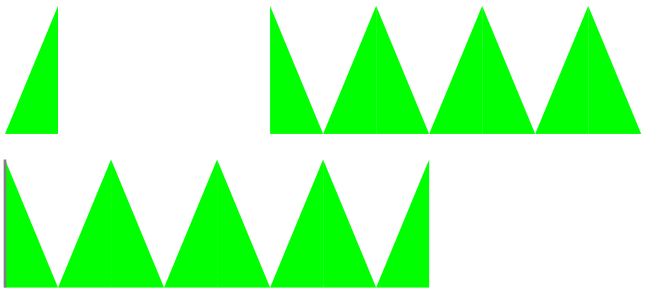


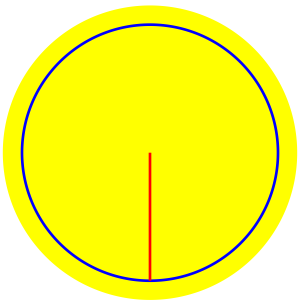


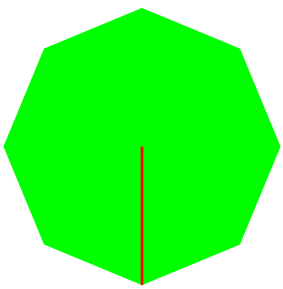


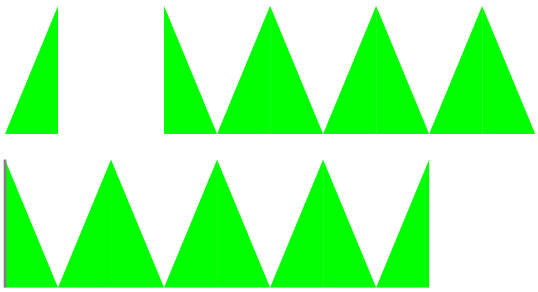


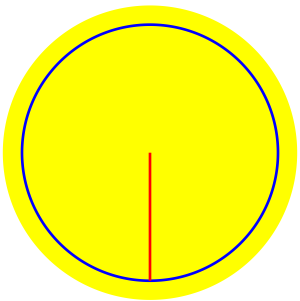


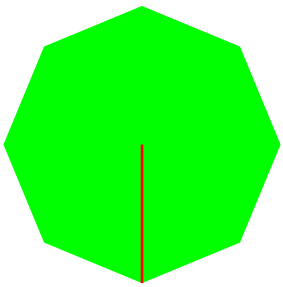


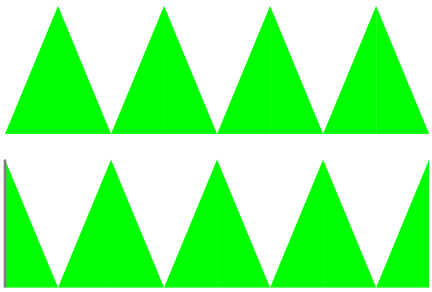


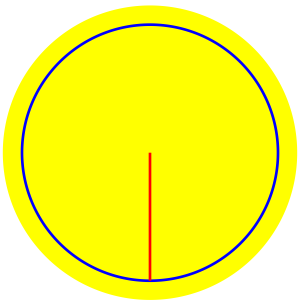


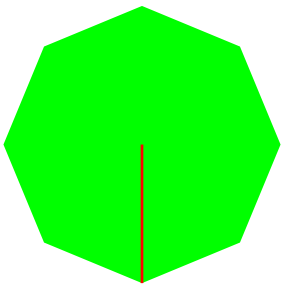


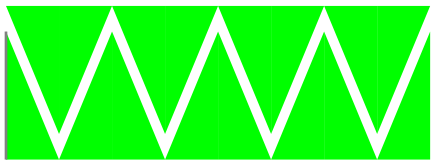


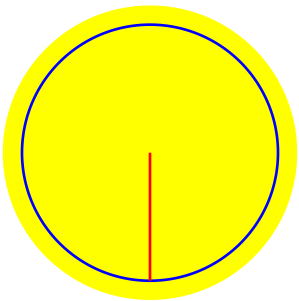


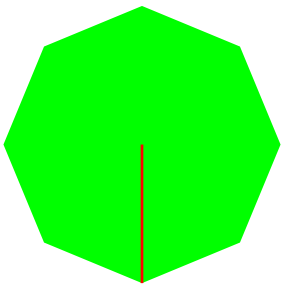


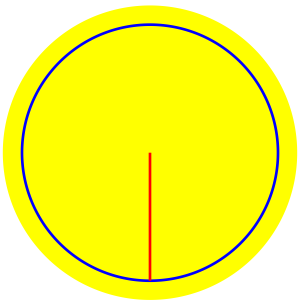


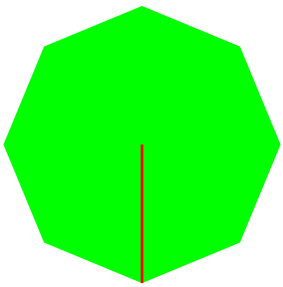


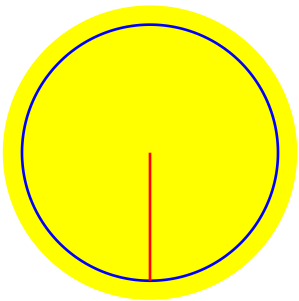


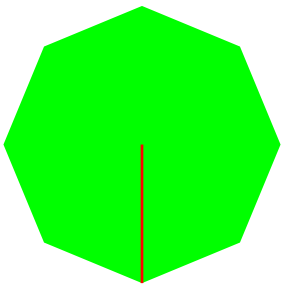


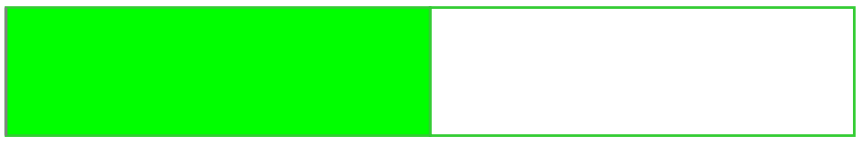


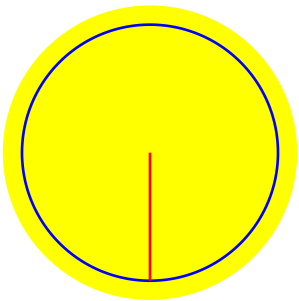


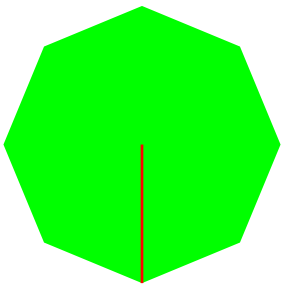


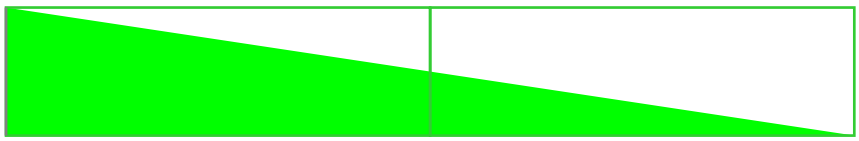


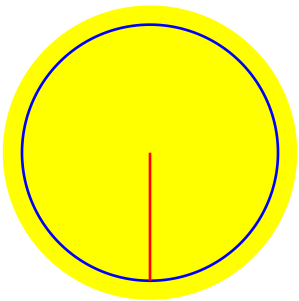


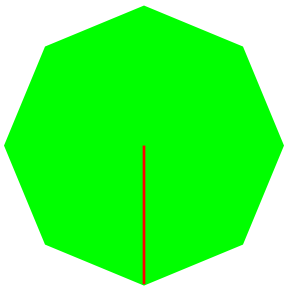


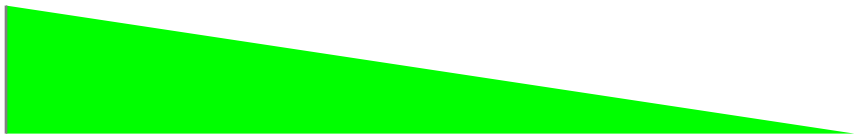


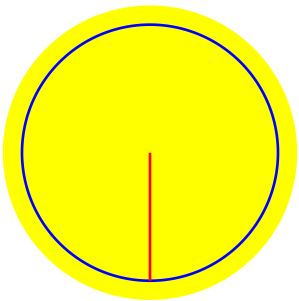


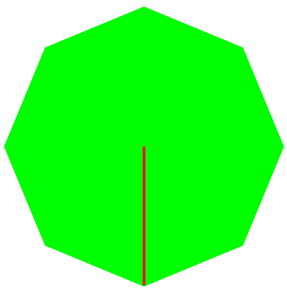


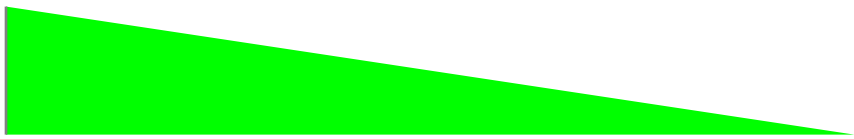


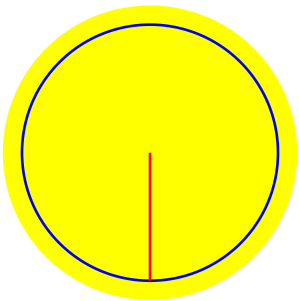


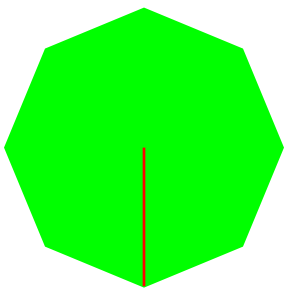


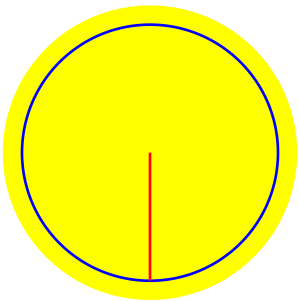


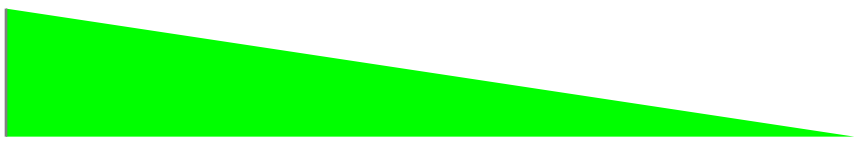


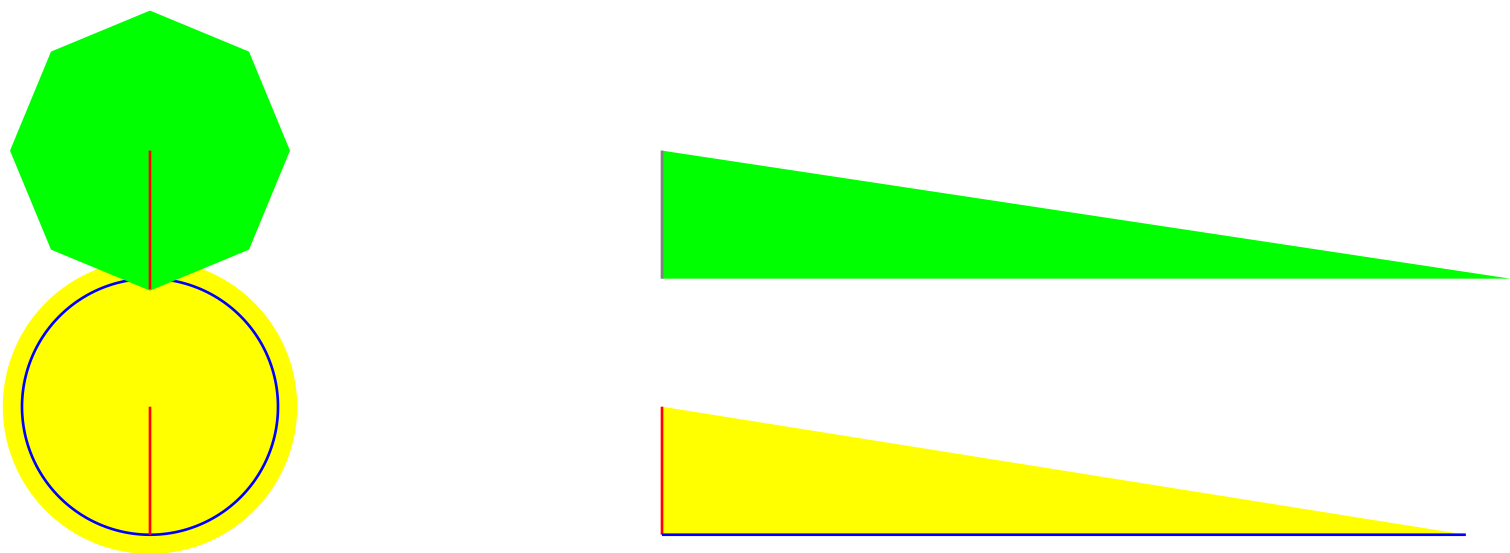


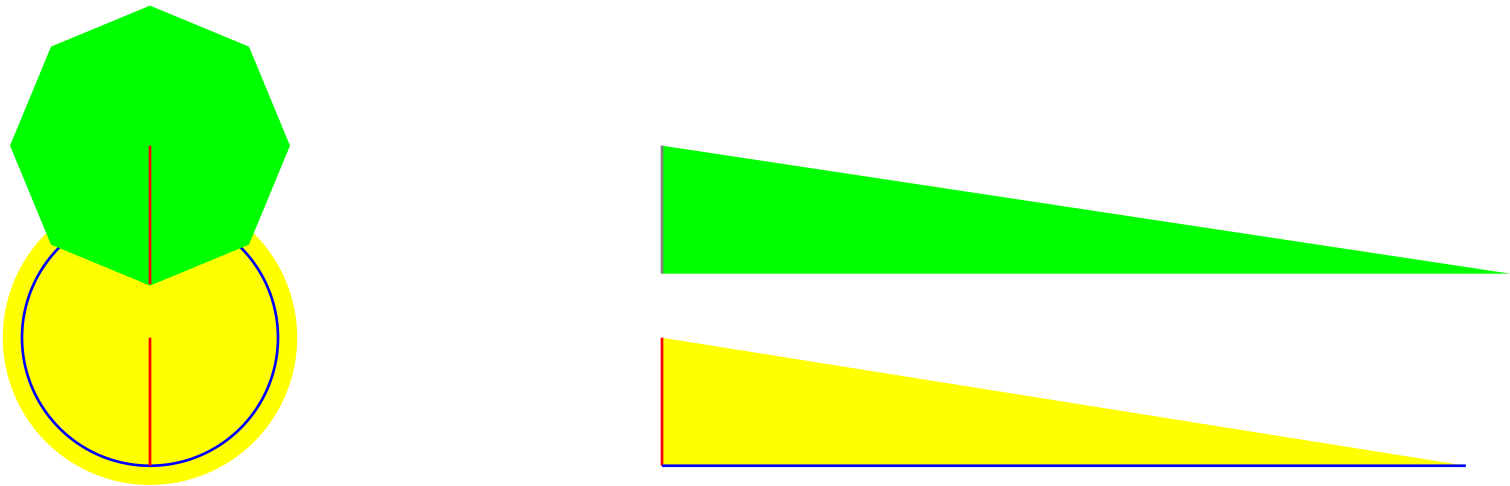


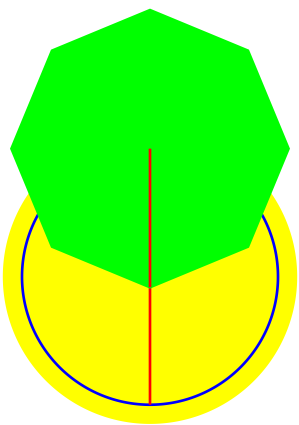


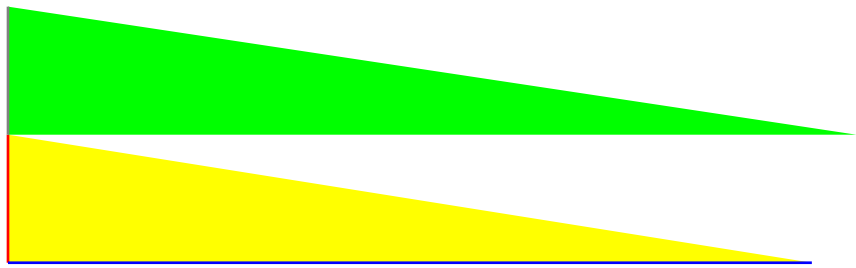


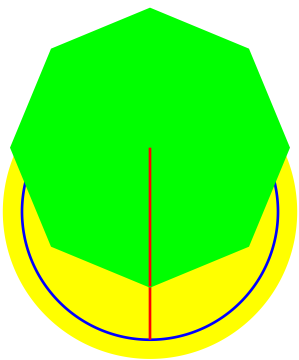


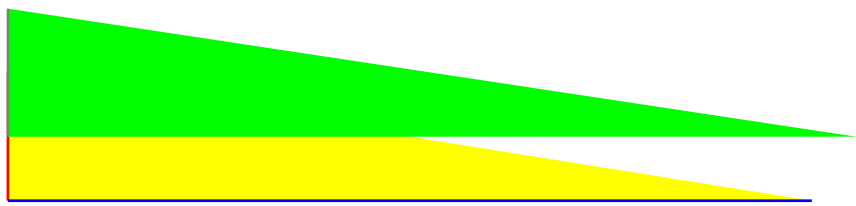


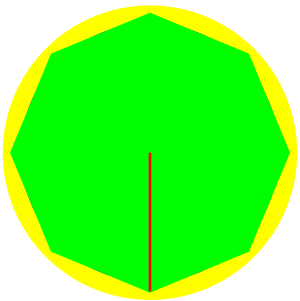


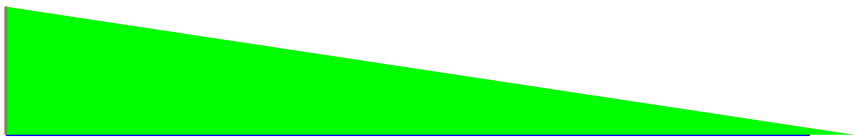






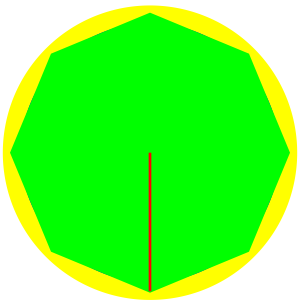


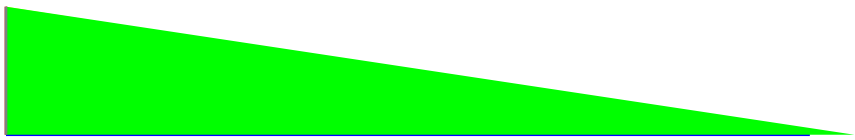




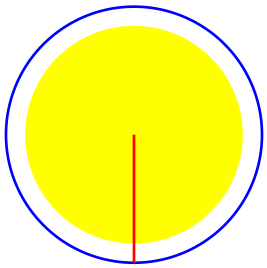
Absurd!!!

Thus, the area of the circle is not less than the circle!

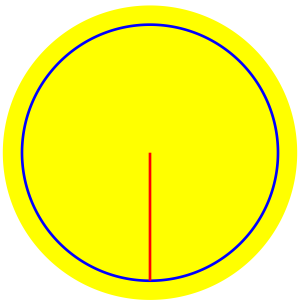


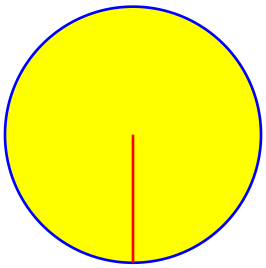


Since then the area of the circle is neither greater



nor less than the triangle,



it is equal to it.

QED