

Assignment 7: Triangle

The radius of a circle inscribed in a triangle, r , is:

$$r = \frac{2A}{p},$$

where A is the triangle's area, A , p is the triangle's perimeter.

Starting from the code that we developed in class when we introduced C structures – point and triangle data types and the function area – write the following code:

- a function, `distance`, that calculates the distance between two `points`
- a program that calculates the radius of the circle inscribed in the triangle with the following vertices:

$$a = (2., 2.), b = (-2., 1.), c = (0., -3.).$$

Test data that you may need to debug your program:

$$a = (2., 2.), \quad b = (4., 4.), \quad c = (8., 8.): \quad r \approx 0.$$

$$a = (0., 0.), \quad b = (0., 4.), \quad c = (3., 0.): \quad r = 1.$$