Herons Formula

Formulation

Heron's formula states that the [area](https://en.wikipedia.org/wiki/Area) of a [triangle](https://en.wikipedia.org/wiki/Triangle) whose sides have lengths *a*, *b*, and *c* is



where *s* is the [semiperimeter](https://en.wikipedia.org/wiki/Semiperimeter%22%20%5Co%20%22Semiperimeter) of the triangle; that is,



Example

Let △*ABC* be the triangle with sides *a* = 4, *b* = 13 and *c* = 15. The semiperimeter is *s* = 1/2(*a* + *b* + *c*) = 1/2(4 + 13 + 15) = 16, and the area is

