

4.4 Area of a Triangle

A third way to calculate the area of a triangle is using Heron's Formula
(10AD)

$$K = \sqrt{s(s-a)(s-b)(s-c)}$$

where K = area of a triangle

a, b, c = lengths of sides

$$s = \text{semi-perimeter} = \frac{a+b+c}{2}$$

EX! Find the area of a triangle with

$a = 40.7$ ft, $b = 50.2$ ft, and $c = 70.7$ ft,

$$s = \frac{40.7 + 50.2 + 70.7}{2} = 80.8 \text{ ft}$$

$$K = \sqrt{80.8(80.8 - 40.7)(80.8 - 50.2)(80.8 - 70.7)}$$

$$K = 1000.7 \text{ ft}^2$$