

PC Notes on 6.1&2 Area of a Triangular Region

There are two formulas that can be used for finding area, depending on the known information.

SAS – If two sides and the included angle are known then the area equals one-half the product of two sides times the sine of the included angle.

$$Area = \frac{1}{2} ab \sin C$$

$$Area = \frac{1}{2} bc \sin A$$

$$Area = \frac{1}{2} ac \sin B$$

SSS – If all three sides are known, a formula known as Heron's formula or Hero's formula is used.

First, calculate the semiperimeter, $s = \frac{1}{2}(a + b + c)$

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