Area of Oblique Triangles

Two ways to find the Area of a triangle:

1. $K = \frac{1}{2}ab\sin C$ ***Given 2 sides and 1 angle – all letters different; a, b = sides, C = angle***

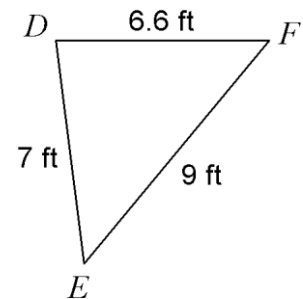Example: Find the area: a = 6.8 in, b = 16 in, C = $111°$

2. **Heron's Area Formula - Given 3 sides of the triangle**

The area of a triangle with sides of length *a*, *b*, and *c* is

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

Where $s = \frac{1}{2}(a+b+c)$. The variable *s* is called the *semiperimeter*, or half-perimeter, of the triangle

Example: Find the area of the triangle to the right (nearest tenth).

Examples. Your Turn. **Find the area of the triangle to the nearest tenth (show work).**

1. In ΔABC, a = 14, b = 12, c = 9	**2. In ΔABC, a = 8, b= 17, m∠C = 82°**