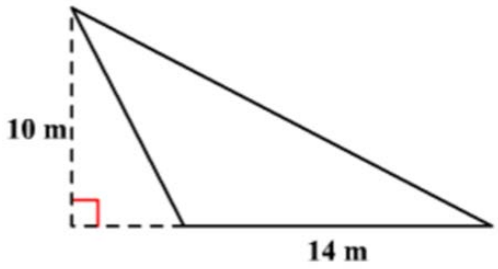
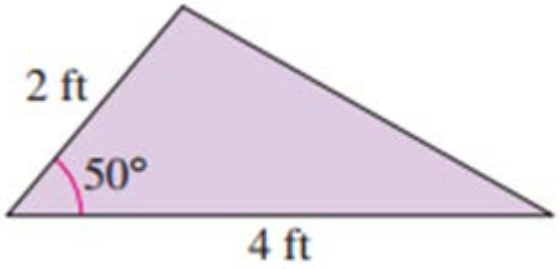
PreCalculus **Name**_____
Notes: 6.1 – 6.2 Extension **Date**_____**Block**_____

1.) Find the area of the triangle.

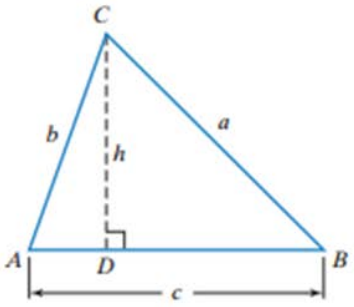


2.) Find the area of the triangle.

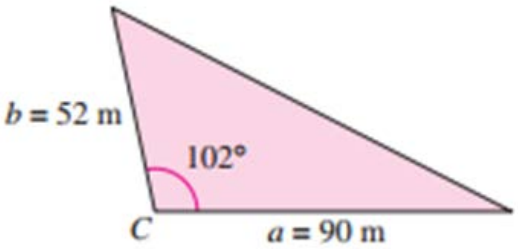


Area of a Triangle

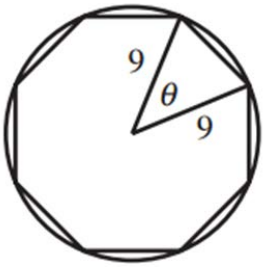
Δ Area =



3.) Find the area of the triangle.



4.) Find the area of a regular octagon inscribed in a circle with radius of 9 inches.



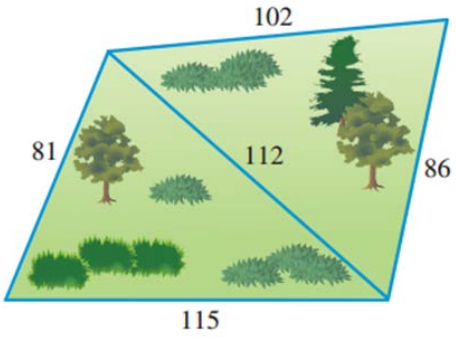
THEOREM Heron's Formula

Let a, b, and c be the sides of ΔABC, and let s denote the **semiperimeter**.

$$(a + b + c)/2.$$

Then the area of ΔABC is given by Area $= \sqrt{s(s-a)(s-b)(s-c)}$.

5.) Use Heron's Formula to find the area of the land.



6.) Because deer require food, water, cover for protection from weather and predators, and living space for healthy survival, there are natural limits to the number of deer that a given plot of land can support. Deer populations in national parks average 14 animals per square kilometer. If a triangular region with sides of 3 kilometers, 4 kilometers, and 6 kilometers has a population of 50 deer, how close is the population on this land to the average national park population?