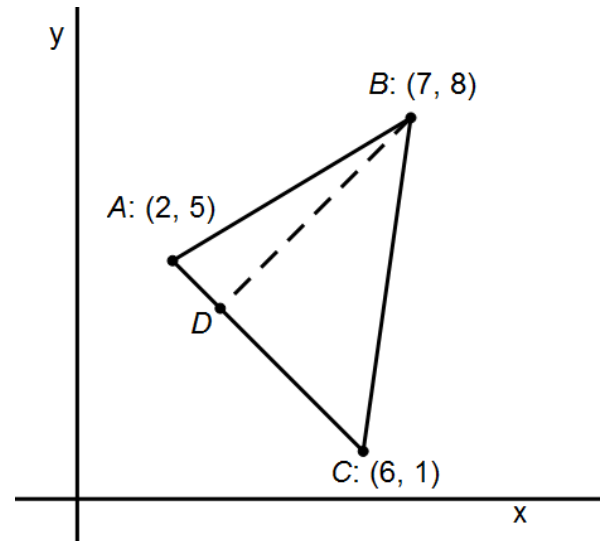


**DUE DATE Tuesday, March 3<sup>rd</sup>**

**Goal:** Find the Area of triangle ABC.

To find the area, you will need to determine the height. To find the height, you will need to find the coordinates of point D.

a. What is the relationship between side  $\overline{AC}$  and height  $\overline{BD}$ ?



b. The first step to finding the area is to find the slope of the base, AC.

c. The next step is to find the slope of the height, BD.

d. Use the Point-Slope formula to find the equation of the base.

e. Use the Point-Slope formula to find the equation of the height.

f. Solve the system of equations found for the base and height of the triangle to find point D.

g. Find the length of BD and AC.

h. Use BD and AC to find the area of the triangle.