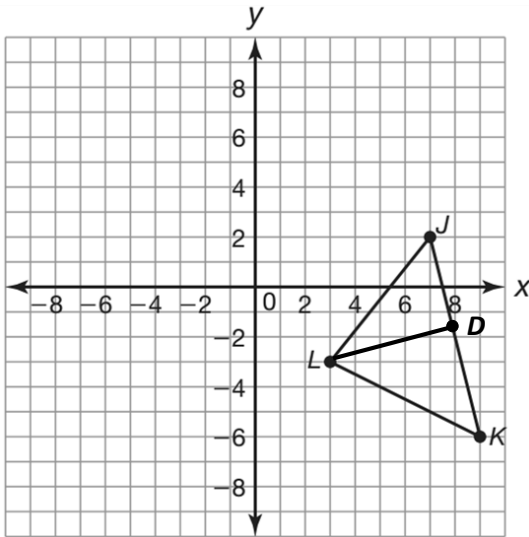


3.2.D2 – Area & Perimeter of Triangles

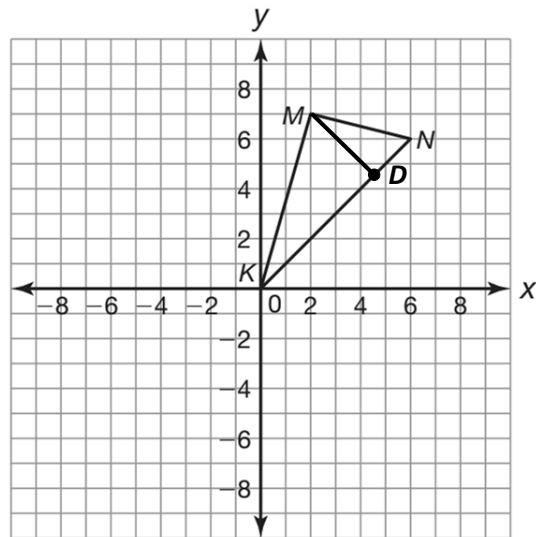
Show all work on a separate sheet of paper.

A triangle is graphed on the coordinate plane; its base has been identified. For each triangle, determine: (a) the coordinates of point D ; (b) the height of the triangle; and (c) the area of the triangle. Round your answer to the nearest hundredth, if necessary.

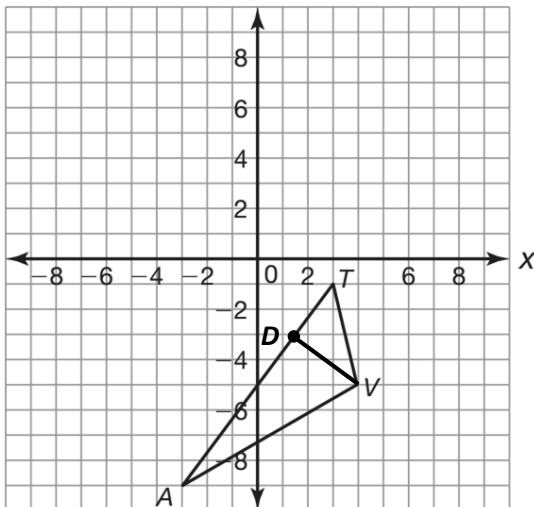
1. $\triangle JKL$, with base \overline{JK}



2. $\triangle KMN$, with base \overline{KN}



3. $\triangle ATV$, with base \overline{AT}



How to find the coordinates of point D

1. Find the slope of the base
2. Find the slope of the height
3. Find the equation of the base
4. Find the equation of the height
5. Set up and solve a system of equations.

What are the coordinates of D ?

4. Joseph plans to fence in a corner of his property so his dog can exercise there. Consider the triangular space shown. Each of the three corners of the space is labeled with coordinates and helps define the dimensions, in feet, of the fenced portion of the land.
- Fencing costs \$15 per linear foot. How much will this project cost Joseph? Show your work.
 - Calculate the amount of space Joseph's dog will have to exercise. Show your work.

