

3-6

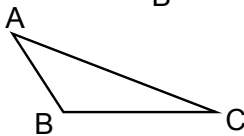
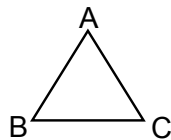
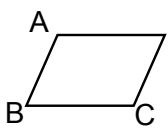
Perpendiculars and Distance

Distance between a Point and a Line

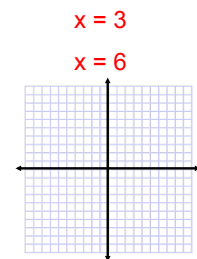
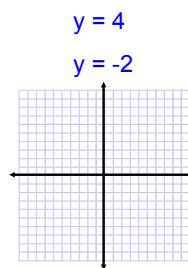
The distance between a point not on a line and a line is ALWAYS the length of a perpendicular segment that connects the two.



Draw the segment that represents the distance from point A and segment BC



Distance between Horizontal and Vertical Lines.



Distance between Parallel Lines WITH SLOPE

- 1) Graph both lines
- 2) Create an equation that would be perpendicular to both lines. Then Graph!
 - a) Use the Negative Reciprocal slope
 - b) Use ONE of the y-intercepts given from the parallel lines
- 3) Label both points of intersection
 - * IF one of the points of intersection is NOT obvious, you must use substitution or elimination to find the point
- 4) Use the distance formula with the two points of intersection to find the length of the segment

Find the distance between the given lines

$$y = (1/2)x - 3$$

$$y = (1/2)x + 1$$

