

Review Pg. 125#12

Unit #3 Coordinate Geometry

U3L1 – 2.2 Using Geometer's Sketchpad and 2.3 Distance from the Origin (Laptops for this lesson)

Students will learn:

- how to use Geometer's Sketchpad (aka – GSP)
 - a quick method (formula) to calculate the distance from the origin to any point on the Cartesian plane
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Students will:

read pg. 146 and top of pg. 147

complete the GSP activity #1 – 8 pgs. 147 – 148 as well as the practice (2.2) in the middle of pg. 148.

Use GSP to complete the following Investigation:

1. Plot the point $A(-4,-1)$ on a grid in GSP.
2. Construct a straight line segment from the origin to point $A(-4,-1)$.
3. Make a right triangle with this line as the hypotenuse and the other sides parallel to the x and y axes respectively.
How long is the vertical side of the triangle?
How long is the horizontal side of the triangle?
How do these lengths relate to the coordinates of point A?
4. If you know the lengths of two sides of a right triangle, how can you find the length of the third side?

5. Determine the distance from the origin to point A without measuring.

6. Use the measure feature in GSP to check your answer to #5.

7. Determine the distances from the origin to point:

i) B(3,-6)

ii) C(6, -2)

In general then a formula to calculate the distance from the origin to any point on the Cartesian Plane is: