CHAPTER 3:

PERIMETER & AREA OF GEOMETRIC FIGURES ON THE COORDINATE PLANE

Cornell Notes/Summary Sheet

Name: _____

Period: _____

Formulas:

Given: (x_1, y_1) & (x_2, y_2)

Distance formula:
$$d = \sqrt{(x_2 - x_1)^2 + (y_2 - y_1)^2}$$

Slope formula:
$$m = \frac{y_2 - y_1}{x_2 - x_1}$$

Squares	Rectangles	Parallelograms	Triangles	Trapezoids
$A = s^2$	$A = bh$	$A = bh$	$A = \frac{1}{2}bh$	$A = \frac{1}{2}h(b_1 + b_2)$

Lesson 3.1 – Big Ideas

- Properties of squares

- Properties of rectangles

- Use the distance and slope formulas to show that a quadrilateral is a square or a rectangle

- Determine the area of squares and rectangles on the coordinate plane (with & without transformations)

Your Notes

Using transformations: If a rigid motion is performed on a geometric figure, not only are the pre-image and the image congruent, but both the perimeter and area of the pre-image and image are equal.

Lesson 3.2 – Big Ideas

- Properties of triangles

- Determine the perimeter and area of triangles on the coordinate plane

- Double the area of triangles on the coordinate plane

Your Notes

The height of a triangle must always be perpendicular to the base. On the coordinate plane, the slope of the height is the opposite reciprocal of the slope of the base.

To double the area of a triangle, only the length of the base or the height of the triangle need to be doubled. If both the length of the base and the height are doubled, the area will quadruple.

REFER TO THE CHAPTER 3 SUMMARY IN YOUR TEXT: PAGES 287 – 296

Lesson 3.3 – Big Ideas	Your Notes
• Properties of parallelograms • Determine the perimeter and area of parallelograms on the coordinate plane • Double the area of parallelograms on the coordinate plane	*The height of a parallelogram is the length of a perpendicular line segment from the base to a vertex opposite the base.* *To double the area of a parallelogram, only the length of the base or the height of the parallelogram need to be doubled. If both the length of the base and the height are doubled, the area will quadruple.*
Lesson 3.4 – Big Ideas	**Your Notes**
• Properties of trapezoids • Determine the perimeter and area of trapezoids on the coordinate plane	*The height of a trapezoid is the length of a perpendicular line segment that connects the two bases.*
Lesson 3.5 – Big Ideas	**Your Notes**
• Composite figures • Determine the perimeter and area of composite figures on the coordinate plane (with & without transformations)	*A composite figure is a figure that is formed by combining different shapes. The area of a composite figure can be calculated by drawing line segments on the figure to divide it into familiar shapes and determining the total area of those shapes.*