

Lake Washington School District  
Teaching and Learning Framework

# Grades 7 - 12

## Mathematics

Geometry

Power Standards | December 2007

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# Grades 7 - 12 | Mathematics

## Number Sense

### Power Standards

### Evidence of Learning

*Although there are no Power Standards involving radicals that students are expected to master, in readiness for Advanced Algebra, students will be introduced to:*

1. Know and use real numbers

Understand and use square roots

Compare and order real numbers without a calculator using relationships between integers and the effects of square roots on those relationships

Operations with square roots (involving Pythagorean Theorem)

Add, subtract, multiply and simplify radicals of positive rationals.

## Measurement

### Power Standards

### Evidence of Learning

1. Analyze how changes in one or two dimensions of an object affect perimeter, area, surface area, and volume (1.2.1)

Know the effect of scale factor on length, area, and volume of similar figures

Calculate and compare the volume and surface area of spheres, right rectangular prisms, and right circular cylinders

2. Use the Pythagorean Theorem in 2-dimensional and 3-dimensional situations to compute unknown distances. (1.2.5)

## Geometric Sense

### Power Standards

### Evidence of Learning

1. Make and test conjectures and prove and use theorems of 2-dimensional and 3-dimensional figures. (1.3.2, 1.3.3, 1.3.4)

Triangle and quadrilateral properties

Congruency between triangles

Parallel lines with transversals

Similarity and scaling

2. Utilize area and perimeter formulas of 2-dimensional polygons and circles figures and surface area and volume formulas of 3-dimensional figures to calculate unknown quantities (1.3.2).

3. Use coordinate geometry (slopes of lines (including parallel and perpendicular lines), distances, and midpoint formulas) to classify 2-dimensional figures (1.3.3)

4. Use properties of 2-D plane figures to solve problems

Use polygon properties to find unknown lengths and angle measures.

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5. Apply multiple transformations (translations, reflections, and/or rotations) to 2-dimensional figures (1.3.4).

## Probability and Statistics

### Power Standards

1. Apply concepts of probability to solve problems.

### Evidence of Learning

complementary, mutually exclusive, and compound events

dependent and independent events

complex counting techniques: permutations and combinations