

LINCOLN PUBLIC SCHOOLS
Mathematics Learning Expectations: Grade 8

**Massachusetts
Standards**

The 2011 Massachusetts Curriculum Framework for Mathematics incorporates the common core standards and a select number of additional standards unique to Massachusetts.

**Critical Areas for
Instructional Focus:**

- Reasoning with linear equations
- Representing and using functions
- Geometric analysis and applications

*See 2011
Massachusetts
Curriculum
Frameworks for
Mathematics:
Grade 8 Introduction
for more detail.*

Content Domains and Key Outcomes

Functions

- Define, evaluate and compare functions
- Use functions to model relationships between quantities

The Number System

- Identify irrational numbers and use rational numbers to approximate their values

Expression and Equations

- Perform operations and solve problems involving radicals and integer exponents
- Demonstrate connections among proportional relationships, lines, and linear equations
- Analyze and solve linear equations and systems of two linear equations

Geometry

- Use physical models, transparencies or geometry software to demonstrate congruence and similarity
- Apply the Pythagorean Theorem to solve problems
- Solve real-world and mathematical problems involving volume of cylinders, cones and spheres

Statistics and Probability

- Describe patterns of association between two sets of related data

*See 2011 Massachusetts Curriculum Frameworks for Mathematics: Grade 8
for more detail.*

Standards for Mathematical Practice

1. Make sense of problems and persevere in solving them.
2. Reason abstractly and quantitatively.
3. Construct viable arguments and critique the reasoning of others.
4. Model with mathematics.

5. Use appropriate tools strategically.
6. Attend to precision.
7. Look for and make use of structure.
8. Look for and express regularity in repeated reasoning.

*See 2011 Massachusetts Curriculum Frameworks for Mathematics:
pp.15-17 for more detail on the use of these standards in all domains.*