Pennsylvania Mathematics

Grade 8

Adopted 2014

Numbers and Operations CC.2.1

(E) The Number System

1. Distinguish between rational and irrational numbers using their properties. CC.2.1.8.E.1
4. Estimate irrational numbers by comparing them to rational numbers. CC.2.1.8.E.4

Algebraic Concepts CC.2.2

(B) Expressions and Equations

1. Apply concepts of radicals and integer exponents to generate equivalent expressions. CC.2.2.8.B.1
2. Understand the connections between proportional relationships, lines, and linear equations. CC.2.2.8.B.2
3. Analyze and solve linear equations and pairs of simultaneous linear equations. CC.2.2.8.B.3

(C) Functions

1. Define, evaluate, and compare functions. CC.2.2.8.C.1
2. Use concepts of functions to model relationships between quantities. CC.2.2.8.C.2

Geometry CC.2.3

(A) Geometry

1. Apply the concepts of volume of cylinders, cones, and spheres to solve real-world and mathematical problems. CC.2.3.8.A.1
2. Understand and apply congruence, similarity, and geometric transformations using various tools. CC.2.3.8.A.2
3. Understand and apply the Pythagorean Theorem to solve problems. CC.2.3.8.A.3

Measurement, Data, and Probability CC.2.4

(B) Statistics and Probability

1. Analyze and/or interpret bivariate data displayed in multiple representations. CC.2.4.8.B.1
2. Understand that patterns of association can be seen in bivariate data utilizing frequencies. CC.2.4.8.B.2

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The Standards of Mathematical Practices

1. **Make sense of problems and persevere in solving them.** MP.1
2. **Construct viable arguments and critique the reasoning of others.** MP.2
3. **Use appropriate tools strategically.** MP.3
4. **Look for and make use of structure.** MP.4
5. **Reason abstractly and quantitatively.** MP.5
6. **Model with mathematics.** MP.6
7. **Attend to precision.** MP.7
8. **Look for and express regularity in repeated reasoning.** MP.8