## As PA transitions to the PA Core Standards, the focus of Grade 8 instruction needs to shift:

| Less emphasis on: | More emphasis on: |
|---|---|
| | **Standards for Mathematical Practice**<br><br>• Describe mathematical "habits of mind"<br>• Standards for mathematical proficiency: reasoning, problem solving, modeling, decision making, and engagement<br>• Connect with content standards in each grade |
| **Numbers & Operations**<br>• Modeling and comparing rational numbers<br>• Using ratio and proportion<br>• Appling GCF and LCM<br>• Operations with rational numbers<br>• Evaluating numerical expressions | **Numbers & Operations**<br>• Working with radicals and integer exponents<br>• Operations with and using numbers in scientific notation<br>• Using rational numbers to approximate irrational numbers |
| **Measurement**<br>• Performing conversions within the metric and customary system | **Measurement** |
| **Geometry**<br>• Finding area, surface area and volume | **Geometry**<br>• Understanding congruence and similarity using rotations, reflections and translations<br>• Using informal arguments to establish facts about angles |

The purpose of this document is to provide a summary of changes in emphasis as Pennsylvania transitions from the PA Academic Standards to the PA Core Standards.  This is not intended to be a curriculum guide or is it inclusive of all grade levels standards - only to identify shifts in emphasis of instruction.

**Grade 8**

## As PA transitions to the PA Core Standards, the focus of Grade 8 instruction needs to shift:

| | |
|---|---|
| **Algebraic Concepts**<br>• Finding missing elements in patterns<br>• Using the concept of equality to demonstrate an understanding of the inverse properties of numbers & the properties of equality | **Algebraic Concepts**<br>• Defining, evaluating and comparing functions<br>• Using & solving linear equations with rational coefficients<br>• Constructing function models (function notation is not required)<br>• Comparing two functions represented in different ways<br>• Interpreting rate as slope<br>• Using equations of linear models to solve problems<br>• Analyzing and solving systems of linear equations |
| **Data Analysis & Probability**<br>• Using sampling techniques to gather data<br>• Comparing data sets graphically and numerically<br>• Stem-and-leaf & box-and-whisker plots<br>• Effects of extreme values<br>• Finding probability, combinations and permutations<br>• Finding missing elements in patterns | **Data Analysis & Probability**<br>• Construct and interpret scatter plots for bivariate data<br>• Informally fit a line to data that has a linear association<br>• Displaying frequencies and relative frequencies in a two way table and understanding patterns of association<br>• Analyzing and solving systems of linear equations |

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