Common Core Priorities for Mathematics

The Standards for Mathematical Practice place an emphasis on the processes students should be engaged in while learning mathematics and the proficiencies and habits of mind that students should develop throughout grades K-12:

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.

Sample Comparison between 7th grade Hawaii Content and Performance Standards (HCPS) III benchmarks and related 7th grade Common Core standards:

	Benchmarks/ Standards	Task
HCPS III Benchmarks	7.4.2: Uses ratios and proportions to relate a scale drawing to the actual object. 7.4.3: Use known measurements (e.g., radius) to calculate desired measurements (e.g., circumference and area) of circles.	Answer a question using given information presented in a diagram or a word problem. For example, *A blueprint for a house shows a circle in the back yard where a pool will be built. The diameter of the actual pool will be 30 feet.* *a. What is the area of the surface of the pool?* *b. If the scale factor of the blueprint drawing is 1/50, what is the diameter of the circle that is drawn in the blueprint?*
Common Core State Standards	Cluster (big idea): **Draw, construct, and describe geometric figures and describe the relationships between them.** 7.G.1: Solve problems involving scale drawings of geometric figures, including computing actual lengths and areas from a scale drawing and reproducing a scale drawing at a different scale. Cluster (big idea): **Solve real-life and mathematical problems involving angle measure, area, surface area, and volume.** 7.G.4: Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle. 7.G.6: Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.	See attached performance task.

Sample Comparison between an Algebra I Hawaii Content and Performance Standards (HCPS) III benchmark and related Algebra I Common Core standards:

	HCPS III Benchmark	Common Core State Standard
Benchmarks/ Standards	AI.9.4: Compare and contrast the properties of linear functions and exponential functions.	Cluster (big idea): **<u>Construct and compare linear, quadratic, and exponential models and solve problems</u>**. F.LE.1: *Distinguish between situations that can be modeled with linear functions and with exponential functions.** a. *Prove that linear functions grow by equal differences over equal intervals and that exponential functions grow by equal factors over equal intervals.** b. *Recognize situations in which one quantity changes at a constant rate per unit interval relative to another.** c. *Recognize situations in which a quantity grows or decays by a constant percent rate per unit interval relative to another.** F.LE.5: *Interpret the parameters in a linear or exponential function in terms of a context.**
Task	Answer a question using given information presented in a diagram or a word problem. For example, *Given the graphs of 5 different functions, sort the graphs into two categories: linear functions and exponential functions. Justify your answer.*	Complete a performance task that will require the student to compare and contrast any apparent trends in data pertaining to a real-world context and use mathematics to model each situation. For example, *Two universities each charge tuition of $10,000 per year. Recently, both universities announced that they will be raising tuition over the next several years starting next school year. University A will increase tuition by $700 per year over the next several years. University B will increase tuition by 6% each year for the next several years.* a. *Create a graph displaying the growth in tuition for each university for the next 10 years.* b. *Do the graphs behave in the same way or in different ways? Explain why.* c. *Determine a function that will model any apparent trends in the graph for each university.* d. *For each function you create, identify the meaning of each parameter in terms of the context of the situation.* e. *Which university would be cheaper to attend (considering tuition only)? Explain why.*