Study Guide: Perfect Squares/Cubes, Roots, Rational vs. Irrational, and Estimating
Watch Videos in USA Test Prep as needed to help prepare
Test will be Monday – September 15, 2014

Evaluate.

MCC8.EE.2 Use square root and cube root symbols to represent solutions to equations of the form x2 = p and x3 = p, where p is a positive rational number. Evaluate square roots of small perfect squares and cube roots of small perfect cubes. Know that $\sqrt{2}$ is irrational.

1. 12^2

2. 9^3

3. $\sqrt{361}$

4. 9^3

5. $\sqrt[3]{216}$

6. $\sqrt{900}$

7. $\sqrt[3]{512}$ a. 6   b. 8   c. 12

8. $\sqrt{25}$

9. $\sqrt{4} + \sqrt{16}$

10. $\sqrt{4 + 16}$

Identify each number below as rational or irrational.

MCC8.NS.1 Know that numbers that are not rational are called irrational. Understand informally that every number has a decimal expansion; for rational numbers show that the decimal expansion repeats eventually, and convert a decimal expansion which repeats eventually into a rational number.

11. 0.016	a. Rational	b. Irrational
12. $4\frac{8}{9}$	a. Rational	b. Irrational
13. $\sqrt{90}$	a. Rational	b. Irrational
14. 3.3	a. Rational	b. Irrational
15. $\sqrt{169}$	a. Rational	b. Irrational
16. 0.01010101…	a. Rational	b. Irrational

17. Which number is rational?	a. $\sqrt{50}$	b. π	c. $\sqrt{99}$-5.625	d. --5.625
18. Which number is irrational?	a. -0.843	b. π	c. $\sqrt{121}$	d. $-−5000$

Identify each root using the number line below. Choose the letter of the point that is the best estimate.

MCC8.NS.2 Use rational approximations of irrational numbers to compare the size of irrational numbers, locate them approximately on a number line diagram, and estimate the value of expressions (e.g., π2).

19.	$\sqrt{37}$	27.	$\sqrt{49}$
28.	$\sqrt[3]{1}$	29.	$\sqrt[3]{200}$