

Name _____

Period _____

Unit 7 Study Guide

Classifying Rational and Irrational Numbers

Determine if each number is rational or irrational (CIRCLE YOUR CHOICE) and explain how you know.

1. π is (rational | irrational) because _____

2. $0.\overline{13}$ is (rational | irrational) because _____

3. $\frac{7}{12}$ is (rational | irrational) because _____

4. $-\sqrt{25}$ is (rational | irrational) because _____

5. $\sqrt{62}$ is (rational | irrational) because _____

Expanding Rational Numbers

For each of the following, remove the repeating decimal to write as a fraction. You must show your work to receive credit!

6. Write $1.\overline{27}$ as a fraction.

7. Write $0.\overline{8}$ as a fraction.

Estimating Square Roots

8. Estimate the value of $\sqrt{114}$ to the nearest tenth. Don't forget to show your work!

9. Give a number for which when you take the square root, the answer falls between 2 and 3, and the answer is closer to 3. Explain your answer in a complete sentence.

Comparing Rational and Irrational Numbers

For each of the following lists, rewrite the numbers in order from least to greatest.

10. $-\frac{2}{3}$, 1.3, $\sqrt{3}$, $\frac{3}{5}$ _____

Compare each set of numbers using $<$, $>$, or $=$.

11. $\frac{31}{5}$ _____ $6\frac{1}{2}$

12. $-\sqrt{25}$ _____ $-\sqrt{36}$

13. Using the letters, mark and label where the values belong on the number line.

A. -1.3

B. 3.25

C. $-\frac{12}{3}$

D. $\sqrt{5}$

E. -2.5

F. π

