

Name: _____ Date: _____ Per. _____

U8 CWK #6

Comparing and Ordering Real Numbers

Directions: Do not use a calculator for the following problems. Any calculations you may need are given in the problem.

1. Order the following numbers from **least to greatest**. Note that $8.5^2 = 72.25$.

~~$\sqrt{80}, 9, 8.5, \sqrt{62}$~~
 ~~$\sqrt{62}, 8, 8.5, \sqrt{80}, 9$~~

$\sqrt{62} / 8 / 8.5 / \sqrt{80} / 9$

2. Order the following numbers from **least to greatest**. Note that $3.5^2 = 12.25$.

~~$-\sqrt{13}, -3, -4, -3.5$~~
 ~~$-\sqrt{13}, -4, -3, -3.5$~~

$-4 / -\sqrt{13} / -3.5 / -3$

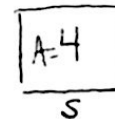
negatives look backwards

3. Use the following calculations to answer the questions below.

$2.2^2 = 4.84$
 $2.3^2 = 5.29$
 $2.23^2 = 4.9729$
 $2.24^2 = 5.0176$

- a. Put the following numbers in order from **least to greatest**.

$\sqrt{5}, \frac{5}{2}, 2.2$, the side length of a square with an area of 4



$2.2 / \sqrt{5} / \frac{5}{2}$

- b. Find a number between 2.2 and $\sqrt{5}$. $\rightarrow \sim 2.23$ ish

$\sqrt{4.9}$

$2.21 / 2.22$

2.201

- c. Find an **irrational** number that is smaller than all of the numbers in part a.

$\sqrt{2}, \sqrt{3}, 1.1459256718943, \dots, -\sqrt{2}$

4. Use the following calculations to answer the questions below.

$6.48^2 = 41.9904$
 $6.5^2 = 42.25$

- a. Order the following numbers from **least to greatest**.

$\sqrt{50}, 6, 7, 6.5, \sqrt{42}$

$6 / \sqrt{42} / 6.5 / 7 / \sqrt{50}$

- b. Find a **rational** number that is smaller than all of the numbers in part a.

$1, 5.4, 3, 4, 1.2, 5.9$

- c. Find an **irrational** number that is smaller than all of the numbers in part a.

$\sqrt{3}, \pi, -\sqrt{3}, \sqrt{5}, \sqrt{2}, \sqrt{35}$

- d. Find a number between $\sqrt{42}$ and 6.5 .

5. Use the following calculations to answer the questions below.

$\sqrt{42.23}, \sqrt{42.15}, \sqrt{42.249}$
 $\sqrt{42.21}, \sqrt{42.01}$

$$2.44^2 = 5.9536$$

$$2.45^2 = 6.0025$$

$$2.449^2 = 5.997601$$

a. Order the following numbers from least to greatest.

$\sqrt{6}$, 2.44, $2.\bar{4}$, 2.5, the side length of a square with an area of 9

$$2.44 / 2.\bar{4} / \sqrt{6} / 2.5 / \sqrt[3]{9}$$

b. Find an irrational number that is between 0 and the smallest number from part a.

$$\sqrt{5.8}, \sqrt{5}, \sqrt{3}, \sqrt{2}$$

c. Find a number that is between 2.44 and $\sqrt{6}$.

$$2.449, 2.448$$

6. Use the approximations of π on page 60 and the calculations given below to answer the questions below.

π is between 3 and 4

π is between 3.1 and 3.2

π is between 3.14 and 3.15

π is between 3.141 and 3.142

$$3.15^2 = 9.9225$$

a. Find a number that is between 3 and π .

$$3.00003, 3.14\bar{1}$$

b. Find a number that is between 3.14 and π .

$$3.141, 3.1400003$$

c. Which is larger and why? $(\pi + 5)$ or 8

stuff
8. stuff

d. Which is larger and why? $(10 - \pi)$ or 7

10 - 3. stuff
6. stuff

e. Which is larger and why? 2π or 6.2

3.1 stuff = 6.2 stuff

f. Which is larger and why? π^2 or 10

3.15² isn't even 10

.14