Name: _____ Date: Jan 13 Hour: 16th

Unit 4B Day 17: Rational and Irrational Numbers on the Number Line

Focus Question: How can I compare rational and irrational numbers?

A. Comparing numbers

Which number is greater in each pair? Explain

1. $\sqrt{27} + \sqrt{27}$ or $\frac{19}{2}$

$\approx 5.1 + 5.1$
≈ 10.2

$\frac{19}{2} = 9.5$

$\sqrt{27}+\sqrt{27}$ is greater because $\sqrt{27}+\sqrt{27} \approx 10.2$ and $\frac{19}{2}=9.5$ and $10.2 > 9.5$

2. $\frac{14}{3}$ or $\sqrt{81} - \sqrt{17}$

$4.\overline{6}$
$3\overline{)14.00}$ $=4.\overline{6}$
-12
20
-18
20

$9 - 4.1$
≈ 4.9

$\sqrt{81}-\sqrt{17}$ is greater because $\frac{14}{3} = 4.\overline{6}$ and $\sqrt{81}-\sqrt{17} \approx 4.9$ and $4.9 > 4.\overline{6}$

B. Ordering numbers on the Real Number Line

For each group of numbers below, place each number in its correct box. Then give an exact decimal value or approximate decimal value. Finally put them in order from least to greatest using the number line.

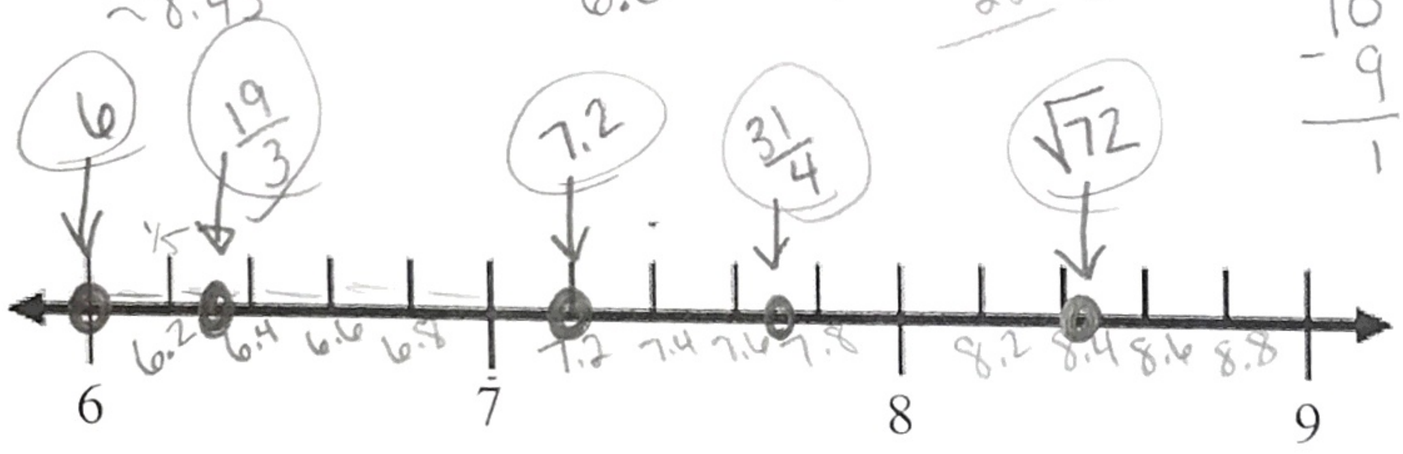
1. $\sqrt{72}$ 7.2 6 $\frac{31}{4}$ $\frac{19}{3}$

≈ 8.43

6.0

7.7
$4\overline{)31.0}$
28
30
-28

6.3
$3\overline{)19.0}$
18
10
-9
1

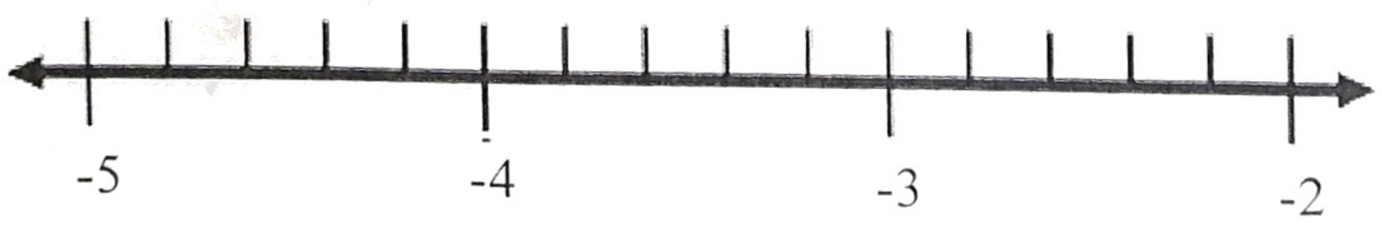


Rational	Irrational (√ π)
7.2 6 $\frac{31}{4}$ $\frac{19}{3}$	$\sqrt{72}$

$6, \frac{19}{3}, 7.2, \frac{31}{4}, \sqrt{72}$

least greatest

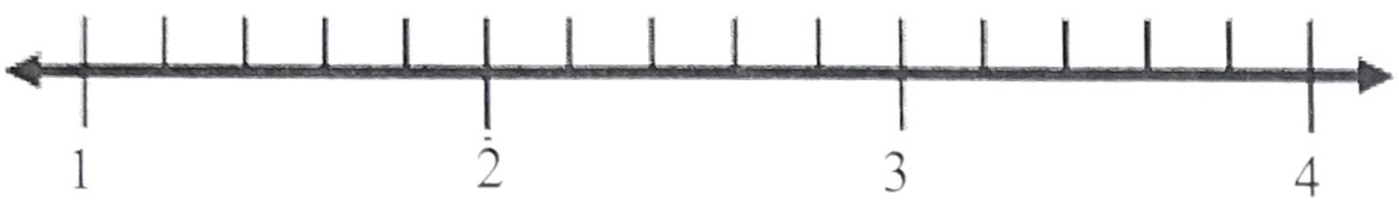
2. -4 $-\sqrt{20}$ $-3.\overline{6}$ $-\sqrt{25}$ $\frac{-7}{2}$



Rational	Irrational

3. $\sqrt{2}$ $\frac{5}{3}$ $\sqrt{9}$ 1.8 4

Rational	Irrational



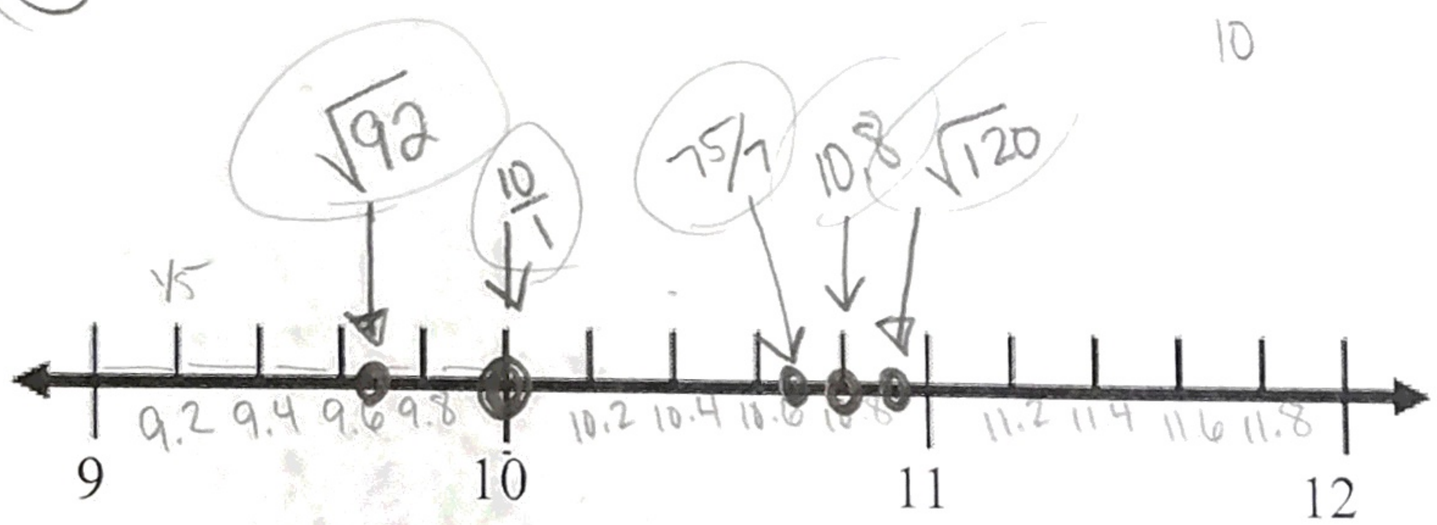
4. $\frac{-1}{5}$ $\frac{6}{3}$ $\sqrt{1}$ $0.\overline{4}$ $\sqrt{3}$

Rational	Irrational

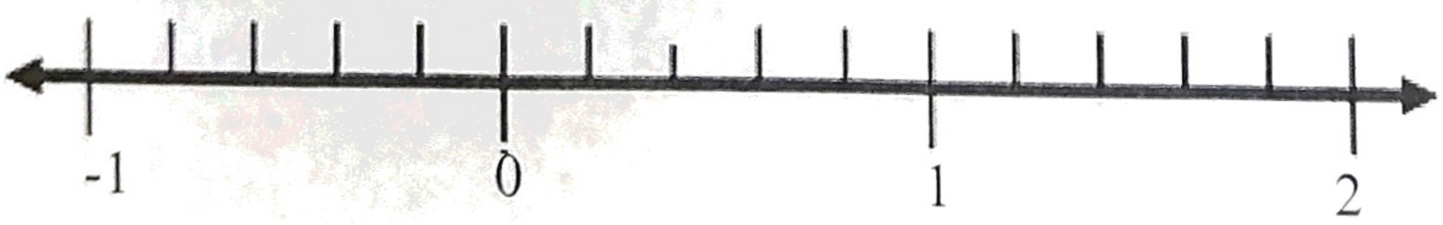
5. $\sqrt{92}$ $\frac{75}{7}$ $\sqrt{120}$ 10.8 $\frac{10}{1}$

10.7
7 | 75.0
-70
50
-49
1

Rational	Irrational
$\frac{75}{7}$ 10.8 $\frac{10}{1}$	$\sqrt{92}$ $\sqrt{120}$



$\sqrt{92}$, $\frac{10}{1}$, $\frac{75}{7}$, 10.8, $\sqrt{120}$
least
greatest

6. $\sqrt{4}$ $\frac{15}{11}$ $\sqrt{3}$ 0.8 -0.5

Rational	Irrational