Cornell Notes	Topic/Objective: Ordering a set of real numbers arising from mathematical and real-world contexts. (TEKS 8.2D)	Name: KEY Class/Period: Date:

Essential Question: How do you order a set of real numbers?

Questions:

Notes:

To order a set of **real numbers**, convert all numbers into the same format.

It is easiest to put the numbers in decimal form.

Recall:

- To put fractions in decimal form, **divide** the numerator by the denominator. $\frac{3}{5} \rightarrow 3 \div 5 = 0.6$
- If you have a **mixed number** turn it into an improper fraction, then a decimal. $2\frac{1}{4} = \frac{9}{4} \rightarrow 9 \div 4$
- To convert a **percent** into a decimal, move the decimal point 2 spaces to the left. $35\% = 0.35$

1) Four people have found the distance in kilometers across a canyon. Put the distances in **descending** order. (Greatest to Least)

Distance across Quarry Canyon			
Juana	Lee Anne	Ryne	Jackson
$\sqrt{28}$ 5.29...	$\frac{23}{4} = 5.75$	$5.\overline{5}$ 5.555	$5\frac{1}{2} = 5.5$

$\frac{23}{4}, 5.\overline{5}, 5\frac{1}{2}, \sqrt{28}$

2) Put the numbers in **ascending** order (least to greatest): $\sqrt{8}$, -3.75, 3, $\frac{9}{4}$

2.82..., -3.75, 3, 2.25

$-3.75, \frac{9}{4}, \sqrt{8}, 3$

3) Order the numbers from least to greatest: $\sqrt{7}$, 2, $\frac{\sqrt{8}}{2}$

2.64..., 2, 1.41...

$\frac{\sqrt{8}}{2}, 2, \sqrt{7}$

4) Order the numbers from greatest to least: $\sqrt{220}$, -10, $\sqrt{100}$, 11.5

14.8, -10, 10, 11.5

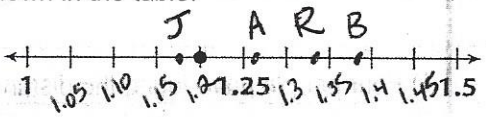
$\sqrt{220}, 11.5, \sqrt{100}, -10$

Questions:	Notes:
	Compare. Write <, >, or =.
	1) $\sqrt{2}+4$ ___>___ $2+\sqrt{4}$
	5.41... 4
	2) $\sqrt{17}-3$ ___>___ $-2+\sqrt{5}$
	1.12... 0.236...
	3) Four people are using different methods to measure the width of shelves to be installed in a closet using 3.5-centimeter brackets. Their results are shown in the table below.

Shelf Width (m)			
A	B	J	R
Allie	Byron	Justin	Rosa
$\sqrt{12}-2.2$ 1.26...	$\frac{\sqrt{23}}{2}-1$ 1.39...	1.18	$1+\frac{\pi}{9}$ 1.34...

a. Put their measurements in descending (G→L) order. B, R, A, J

b. The width of the closet, 1.2 meters, is shown on the number line. Graph the four measurements shown in the table.



c. Whose shelf or shelves would be suitable to use in the closet? Explain.

Justin - it is the only shelf that is narrower than the closet's width.

Summary: