

Math 7/8 Notes

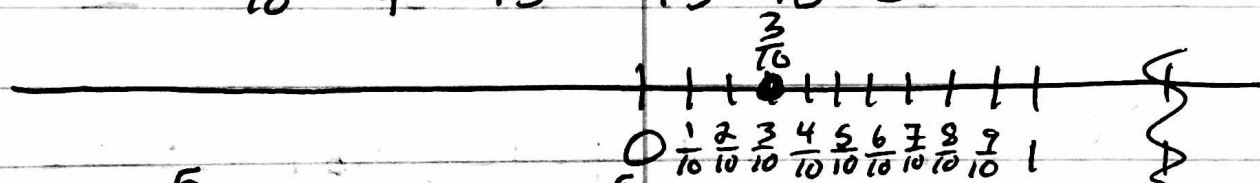
1.4: Introducing the Real Number System

I. Review of Material

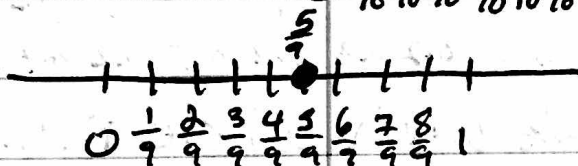
A) How to plot rational numbers

1) Fractions

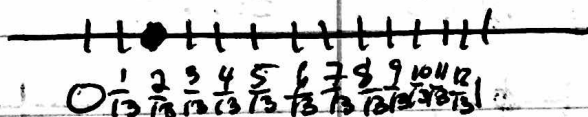
$$\frac{3}{10}, \frac{5}{9}, \frac{2}{13}, -\frac{7}{13}, \frac{6}{18} = \frac{1}{3}$$



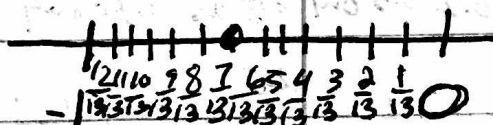
$$\frac{5}{9}$$



$$\frac{2}{13}$$



$$-\frac{7}{13}$$



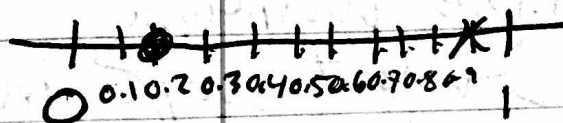
$$\frac{6}{18} = \frac{1}{3}$$



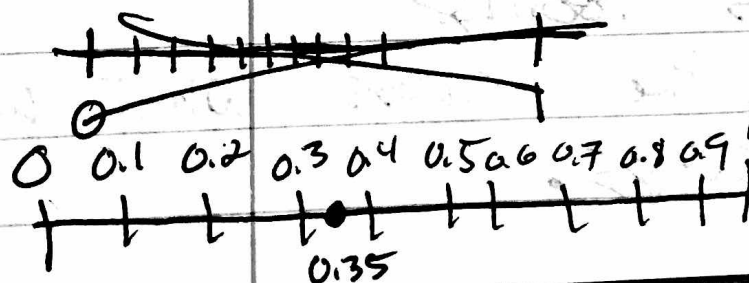
2) Decimals

$$0.2, 0.35, 0.5, 0.9, 0.76$$

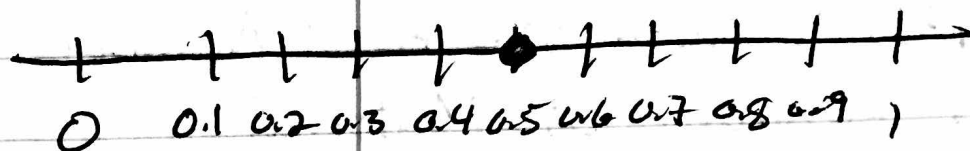
$$0.2$$



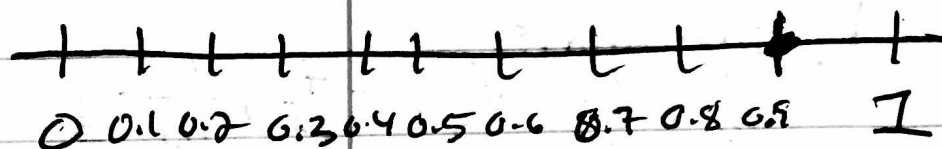
$$0.35$$



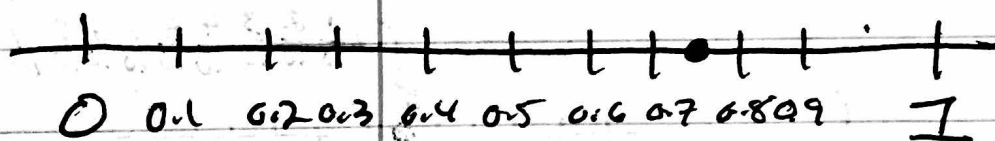
0.5



0.9



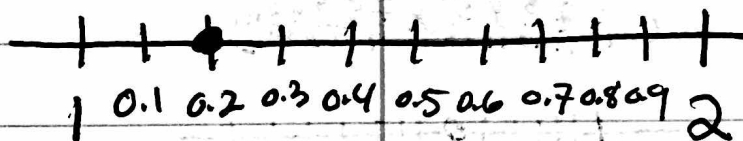
0.76



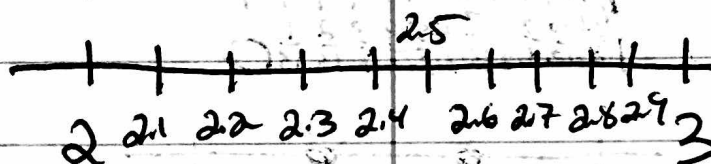
3

3) Decimals with whole numbers.
1.2, 2.3, 3.14

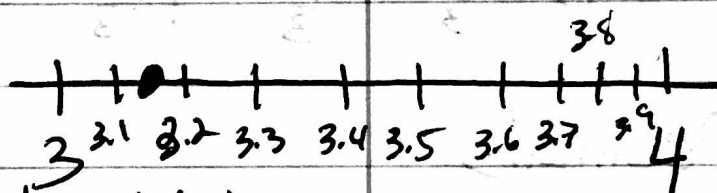
1.2



2.3



3.14



B. Absolute Value

1) Example Walking

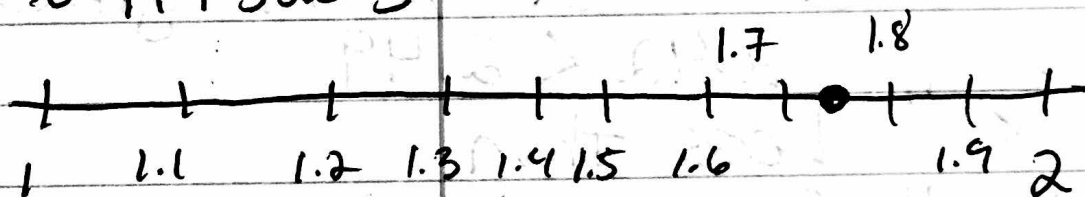
★ Have a student walk in front of the class room

Ask the class what was the distance in steps.

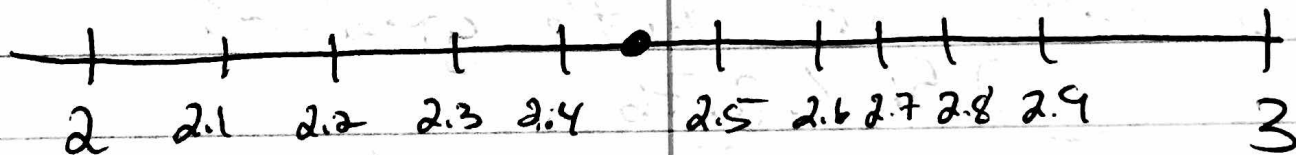
- Have the students walk three steps to the right. "How far did he/she go?"
- Have the student return to zero.
- Have the student walk three steps left. "How far did he/she go?"
- Repeat with 4, $\frac{1}{2}$ a step, $2\frac{1}{2}$ steps in both directions.

The walking distance is absolute value.
 Ex. C) How to plot Irrational Numbers
~~Homework~~

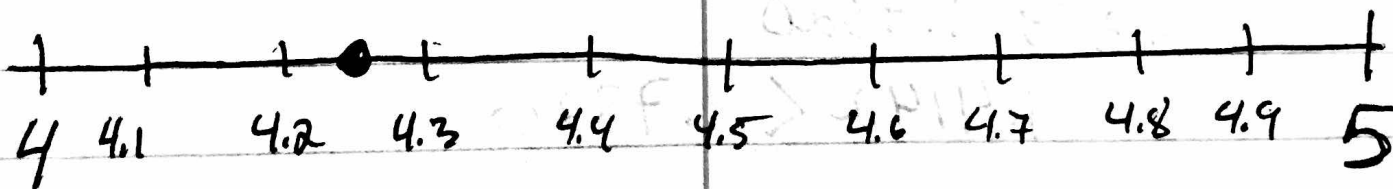
$$\sqrt{3} \approx 1.73205$$



$$\sqrt{6} \approx 2.4494$$



$$\sqrt{18} \approx 4.2426$$



D) Absolute works for Irrationals

$$|\sqrt{3}| = \sqrt{3} \quad |-\sqrt{3}| = \sqrt{3}$$

$$|1-\sqrt{3}| = \sqrt{3} \quad |\sqrt{3}| = \sqrt{3}$$

1.4 Course 2A
Homework 1.4 # 1-4, 5

E. Comparing Numbers

~~Is $\sqrt{2}$ or $\sqrt{3}$ greater~~
 ~~$\sqrt{2} \approx$~~

Is 2.42 or 2.49 greater?

$$2.42 < 2.49$$

"<" Less than

">" Greater than

Is 2.56 or 2.76 greater?

$$2.56 < 2.76$$

Is $\sqrt{2}$ or $\sqrt{3}$ greater

$$\sqrt{2} \approx 1.4142$$

$$\sqrt{3} \approx 1.7320$$

$$1.4142 < 1.7320$$