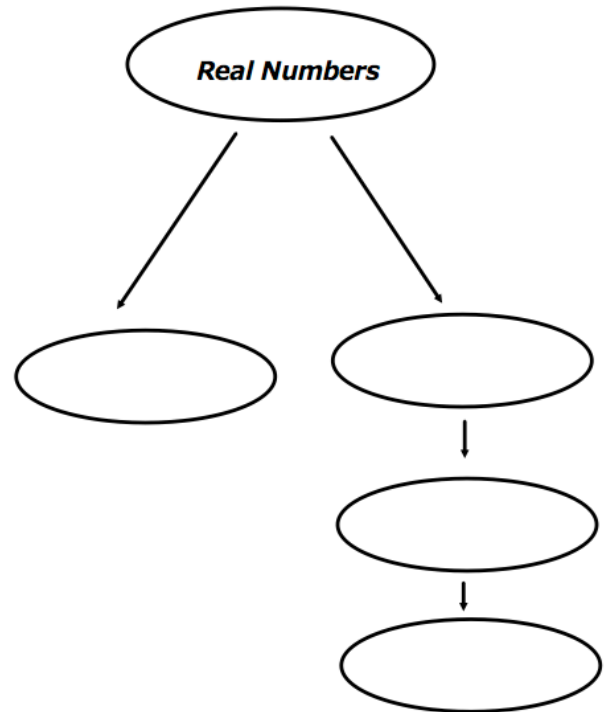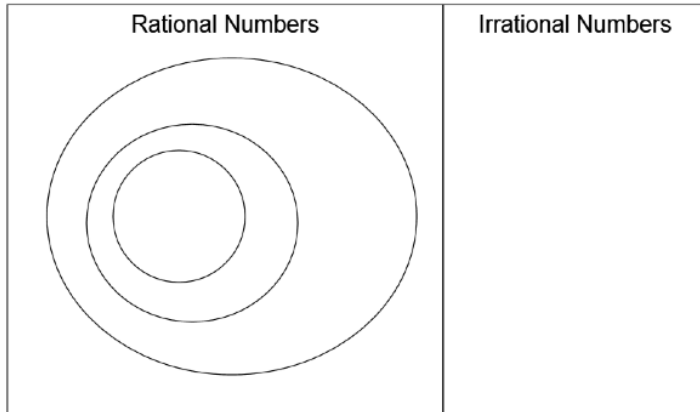## Exploring Numbers Homework

1. *Choose any one of the graphic organizers below. Copy it into your notebook, and complete it by filling in the words rational, irrational, whole, natural, and/or integer where appropriate.*

Rational Numbers	Irrational Numbers

Real Numbers

2. *Name the set(s) to which each real number belongs. (rational, irrational, integer, whole, natural)*

a. -99   b. 1.83   c. √2   d. √9

e. π   f. 21   g. 0

3. *Write any number that meets each classification:*

a. rational, but not a whole number   b. integer, but not natural

4. *What types of numbers are best to use for each real world situation?*
(rational, irrational, integers, whole) **Support your answer.** ☺

a. Your shoe size at any point in your life   b. How many followers you have on Instagram

c. The cost of your dream vacation   d. The exact circumference of a circular field.

5. Kyle claims that all natural numbers must be whole numbers. John states that all integers must be whole numbers. Who do you agree with, and why?

Selected Solutions

2.   a. rational, integer   c. irrational
         e. irrational   g. rational, integer, whole

3. a. any fraction or ending decimal or repeating decimal; ex. ¼, -3.429, 5

4. b. Whole numbers because you can only have zero or more followers. It is not possible to have a negative number of followers or a fraction of a person as a follower.

d. Irrational numbers because the formula for circumference of a circle is pi times the diameter. Pi is irrational since it never ends and never repeats, so any number multiplied by pi will also be irrational

5. I agree with Kyle. All natural counting numbers (1, 2, 3, 4, …) are within the set of whole numbers. (0, 1, 2, 3, …) Also, John is incorrect because -2 is an integer, but not a whole number. (reasons/justifications will vary).