Bell Work
Graph the following:

$$y = x^2 - 5x - 24$$

$$y = (x - 8)(x + 3)$$

$$y = x - 8$$

$$y = x + 3$$

What are some similarties and differences that you see when all four equations are graphed at the same time?

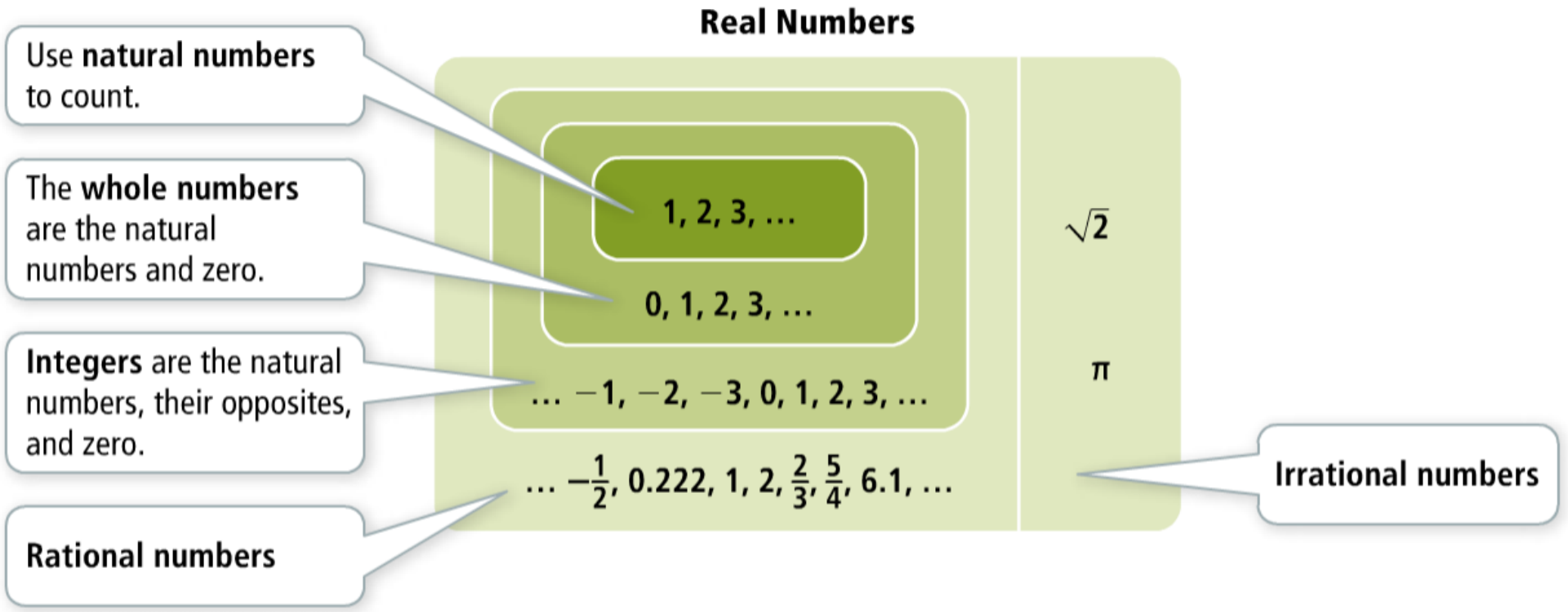
ALGEBRA 3

Day 6

Chapter 1 Section 2
Properties of Real Numbers

- **Objective**: To classify, graph, and become familiar with the types of real numbers

The diagram shows how subsets of the real numbers are related.



Rational numbers

- are all numbers you can write as a quotient of integers $\frac{a}{b}$, $b \neq 0$.
- include terminating decimals.
  For example, $\frac{1}{8} = 0.125$.
- include repeating decimals.
  For example, $\frac{1}{3} = 0.\overline{3}$.

Irrational numbers

- have decimal representations that neither terminate nor repeat.
  For example, $\sqrt{2} = 1.414213\ldots$.
- cannot be written as quotients of integers.

take note

Properties Properties of Real Numbers

Let a, b, and c represent real numbers.

Property	Addition	Multiplication
Closure	$a + b$ is a real number.	ab is a real number.
Commutative	$a + b = b + a$	$ab = ba$
Associative	$(a + b) + c = a + (b + c)$	$(ab)c = a(bc)$
Identity	$a + 0 = a, 0 + a = a$ 0 is the additive identity.	$a \cdot 1 = a, 1 \cdot a = a$ 1 is the multiplicative identity.
Inverse	$a + (-a) = 0$	$a \cdot \frac{1}{a} = 1, a \neq 0$
Distributive	$a(b + c) = ab + ac$	

Review:
Using the Online Text Book and Teams

- Log into your Office 365 account
- Click on the Waffle
- Click “All”
- Search “Pearson”
- Select our class and open the book

- Online Discussion
- Notes and PowerPoints

For Next Time…

From Today:

Page 15 #1-3, 13-22 (on same number line), 50, 66

Mixed Review:

Page 17 #75, 80, 81, 82