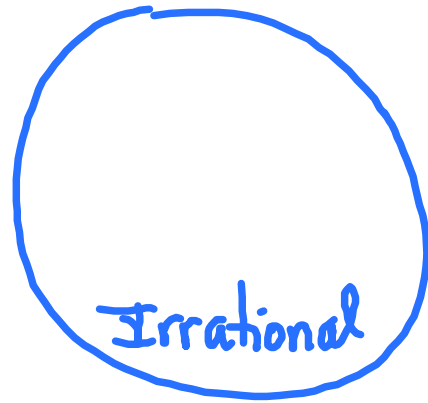
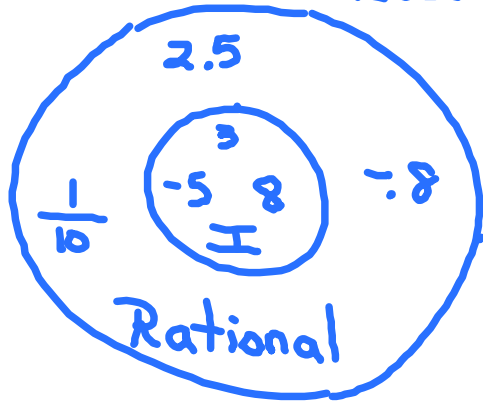


Chapter 1.1 Integers and Absolute Value

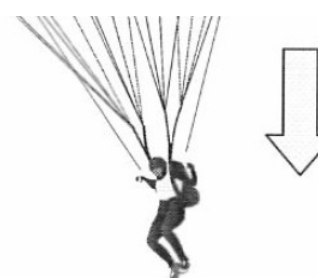
def: $\left. \begin{array}{l} \text{pos} \\ \text{neg} \end{array} \right\} \text{Whole numbers}$

no decimals/fractions

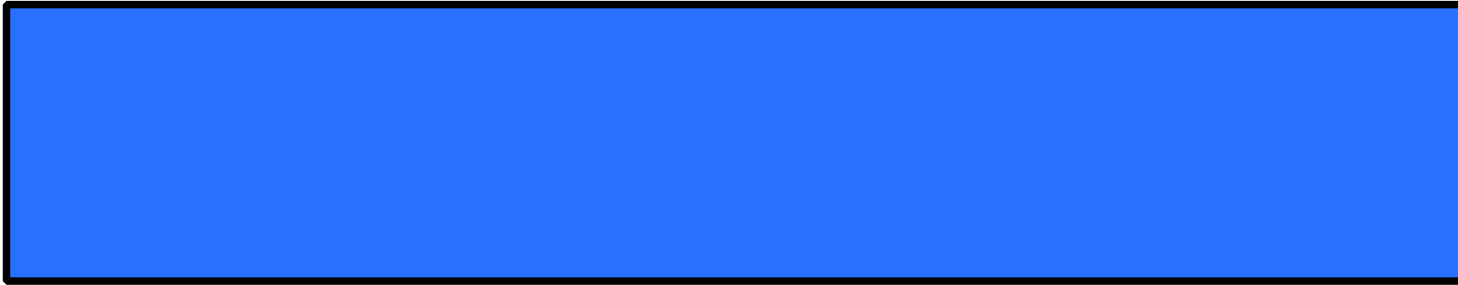
Real Numbers



Time (seconds)	0	1	2	3
Height (feet)	45	30	15	0

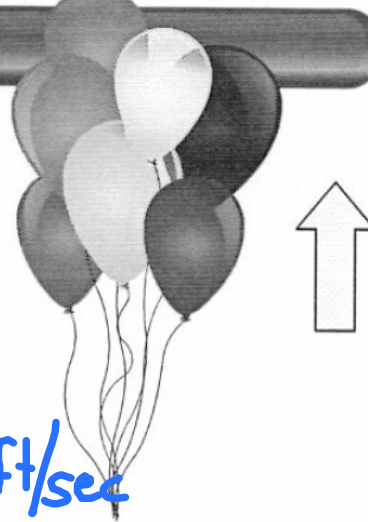


- a. How many feet do you move each second? 15 ft
- b. What is your speed? Give the units. 15 ft/sec
- c. Is your velocity positive or negative?
- d. What is your velocity? Give the units. $> -15 \text{ ft/sec}$



Work with a partner. The table shows the height of a group of balloons.

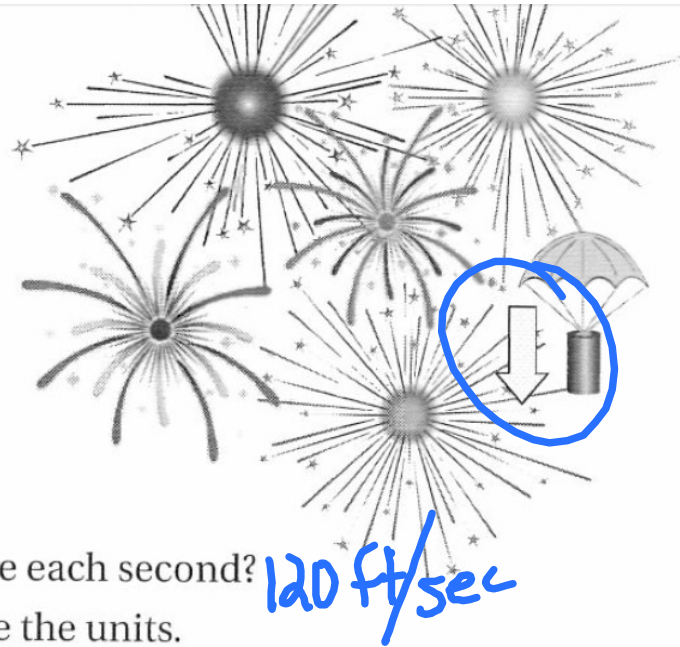
Time (seconds)	0	1	2	3
Height (feet)	0	4	8	12



- a. How many feet do the balloons move each second? 4 ft/sec
- b. What is the speed of the balloons? Give the units. 4 ft/sec
- c. Is the velocity positive or negative?
- d. What is the velocity? Give the units $\rightarrow 4 \text{ ft/sec}$

Work with a partner. The table shows the height of a firework's parachute.

Time (seconds)	Height (feet)
0	480
1	360
2	240
3	120
4	0



- a. How many feet does the parachute move each second? 120 ft/sec
- b. What is the speed of the parachute? Give the units.
- c. Is the velocity positive or negative? -120 ft/sec
- d. What is the velocity? Give the units.

Inductive Reasoning

4. Copy and complete the table.

Velocity (feet per second)	-14	20	-2	0	25	-15
Speed (feet per second)						

5. Find two different velocities for which the speed is 16 feet per second.

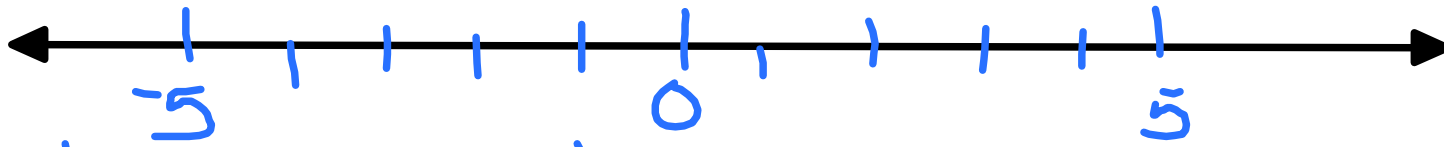
16 ft/sec
-16 ft/sec

6. Which number is greater: -4 or 3? Use a number line to explain your reasoning.

3

7. One object has a velocity of -4 feet per second. Another object has a velocity of 3 feet per second. Which object has the greater speed? Explain your answer.

Absolute Value = distance from 0



$$|4| = 4 \quad |-17| = 17$$

$$|-3| = 3 \quad |0| = 0$$

1.1**Practice**

For use after Lesson 1.1

Find the absolute value of the integer.

1. $|-1| = 1$

2. -14 14

3. 0 0

4. 6 6

Complete the statement using $<$, $>$, or $=$.

5. $6 > |-2|$

6. $-7 < |-8|$

7. $|-9| > 5$

8. $|-2| = 2$

Order the values from least to greatest.

9. $4, \overset{7}{\cancel{7}}, -1, \overset{3}{\cancel{3}}, -4$

$-4 \quad -1 \quad | -3 \quad 4 \quad | 7$

10. $\overset{4}{\cancel{4}}, -3, \overset{5}{\cancel{5}}, -1, 6$

$-3 \quad -1 \quad | 2 \quad | 5 \quad 6$

11. $\overset{8}{\cancel{8}}, 0, -9, \overset{7}{\cancel{7}}, -2$

$-9 \quad -2 \quad 0 \quad | -7 \quad | -8$

12. You download 12 new songs to your MP3 player. Then you delete 5 old songs. Write each amount as an integer.

\downarrow
 $12, +12$

$\cancel{(-5)}$

\downarrow
 5

13. The mantle layer of Earth begins about 70 kilometers underneath the surface. The layer called the outer core begins about 2970 kilometers underneath the surface.

a. Write an integer for the position of each layer relative to the surface.

-70 -2970

Mantle layer _____

Outer core _____

b. Which integer in part (a) is greater?

-70

$$\textcircled{c} \quad |-2970| = 2970$$

Homework # 4-36