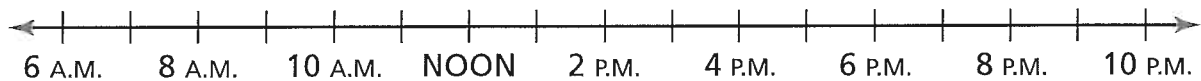


**Activity**  
**6.1**

**Start Thinking!**  
For use before Activity 6.1

Copy the number line below. Choose four or five highlights from your day yesterday. For each highlight, use the start time to label the event on your number line.



**Activity**  
**6.1**

**Warm Up**  
For use before Activity 6.1

**Graph the number on a number line.**

1. 2

2. 5

3. 4

4. 3

5. 0

6. 1

## 6.1 Practice B

Write a positive or negative integer that represents the situation.

- You run up 24 steps.
- The temperature dropped 7 degrees.
- You give away 2 of your video games.
- You miss 3 days of practice.

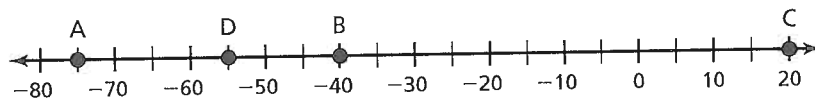
Graph the integer and its opposite.

- 45
- 250
- 200

- You roll a number cube and move ahead 3 spaces. Your friend rolls a number cube and moves the opposite of your move. Graph both moves.

Identify the integer represented by the point on the number line.

- A
- B
- C
- D

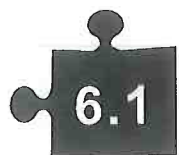


- Use the information below to write an integer that represents your height on the teeter totter relative to the balance point height.
  - You are 8 inches below the balance point height.
  - You are 15 inches above the balance point height.
  - Your friend is 12 inches above the balance point height. Your height is the opposite.
  - You are resting at the balance point height.

Every number has an opposite. Write the opposite of the decimal or fraction. Then graph the number and its opposite.

- 8.2
- $-\frac{2}{3}$
- $-1\frac{1}{4}$

- You are riding a roller coaster. During the ride, you climb 25 feet, descend 30 feet, climb 50 feet, and then descend 55 feet. Do you finish *above*, *below*, or at the *same* height as you started? Explain.



## Puzzle Time

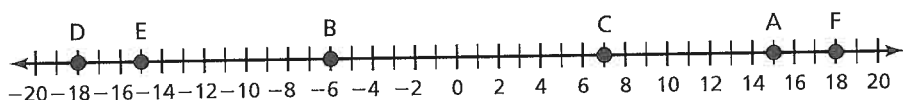
### What Do You Get When You Cross An Electrical Eel With A Sponge?

Write the letter of each answer in the box containing the exercise number.

Write a positive or negative integer that represents the situation.

1. Lisa puts 14 dollars into her piggy bank.
2. You are playing a game and must go back 4 spaces.
3. Claire loses 5 points on a spelling test.
4. The football team scores 21 points in the game.
5. Your dad gains 5 pounds.
6. Addison gets 4 bonus points on the science test.
7. The temperature drops 14 degrees.
8. You take 21 dollars out of your bank account.

Identify the location of the point on the number line.



- |       |       |
|-------|-------|
| 9. A  | 10. B |
| 11. C | 12. D |
| 13. E | 14. F |

#### Answers

- O. 21
- A. -18
- R. -4
- K. -14
- B. -6
- S. 7
- B. 18
- H. -5
- O. 4
- S. 14
- C. -15
- R. -21
- S. 5
- E. 15

11	3	6	13	7		12	10	1	4	8	14	9	2	5
----	---	---	----	---	--	----	----	---	---	---	----	---	---	---

**Lesson**  
**6.2****Start Thinking!**

For use before Lesson 6.2

In golf, the goal is to use the fewest number of strokes to get the ball into a hole. A golfer's score is compared to par, the number of strokes a skilled golfer should need when completing a particular hole.

Number	Term	Definition
-2	Eagle	2 strokes under par
-1	Birdie	1 stroke under par
0	Par	Equal to par
1	Bogey	1 stroke over par
2	Double bogey	2 strokes over par

How is playing golf related to comparing and ordering integers?

**Lesson**  
**6.2****Warm Up**

For use before Lesson 6.2

Copy and complete the statement using  $<$  or  $>$ .

1.  $1 \underline{\quad ? \quad} 0$

2.  $0 \underline{\quad ? \quad} 5$

3.  $-14 \underline{\quad ? \quad} 0$

4.  $-5 \underline{\quad ? \quad} 5$

5.  $2 \underline{\quad ? \quad} -2$

6.  $-5 \underline{\quad ? \quad} 2$

## 6.2 Practice B

Copy and complete the statement using  $<$  or  $>$ .

1.  $-5$  ?  $5$

2.  $4$  ?  $-2$

3.  $-1$  ?  $-3$

4.  $-6$  ?  $-3$

5.  $-9$  ?  $-8$

6.  $-4$  ?  $-1$

Order the integers from least to greatest.

7.  $2, -5, 5, 8, -8$

8.  $4, -1, -3, -6, 2$

9.  $20, -20, 40, 50, -50$

10.  $10, -15, -20, 25, -30$

11. In a round of golf, the lowest score wins. At the end of a round, you have score  $-3$  and your friend has score  $-4$ . Who won the round? Explain.
12. Seven integers are ordered from least to greatest. The integer in the middle is zero. Describe the other six numbers.
13. The table shows the highest and lowest daily profit/loss of the five locations of a chain of restaurants.
- | Location | Highest Profit/Loss | Lowest Profit/Loss |
|----------|---------------------|--------------------|
| North    | 350                 | 125                |
| South    | 275                 | -50                |
| East     | 300                 | -100               |
| West     | 50                  | -250               |
| Central  | 225                 | 75                 |
- a. Order the locations by their highest profit/loss from least to greatest.
- b. Order the locations by their lowest profit/loss from least to greatest.
- c. Find the middle integer of the highest profit/loss.
- d. Find the middle integer of the lowest profit/loss.
- e. The company needs to close one of the locations. Which location should they close? Explain.
14. Point  $A$  is on a number line halfway between  $-20$  and  $-4$ . Point  $B$  is halfway between point  $A$  and  $0$ . What integer is represented by point  $B$ ?
15. Nine Celsius temperatures are recorded in a lab. The middle temperature is  $0^\circ\text{C}$ . What is the maximum number of temperatures that could be represented by negative numbers?



## Puzzle Time

### Did You Hear About The...

A	B	C	D	E	F
G	H	I	J	K	L
M					

Complete each exercise. Find the answer in the answer column. Write the word under the answer in the box containing the exercise letter.

-5, -4, 1, 6 GOT
-7, -17, 7, 17 LIFT
-3, 3, -13, -33 DOWN
-1, -2, -4, -5 WHEN
-6 BECAUSE
-300 EXERCISE
4 DUMBBELLS
-5, -4, -2, -1 UP
-8 ALWAYS
-68, -8, 0, 60 THE

Which number is greater?

- A. 4, 1                                      B. 7, -7  
C. -2, 5                                      D. -8, -9  
E. -4, -3                                      F. -6, -11

Order the integers from least to greatest.

- G. 2, -6, 0, -3                              H. -4, 6, -5, 1  
I. 7, -7, 17, -17                              J. -2, -5, -1, -4  
K. 3, -3, -13, -33                              L. 0, -8, 60, -68  
M. After the first round on a television game show, the three contestants have -\$300, \$600, and -\$400 respectively. Which of the three dollar amounts represents the lowest score in the game?

0, -8, 60, -68 RAN
-33, -13, -3, 3 AT
-400 GYM
5 WERE
-3, -6, 0, 2 EARLY
-3 LATE
-6, -3, 0, 2 THEY
7 THAT
-17, -7, 7, 17 HELD
-11 WEIGHTS

**Lesson**  
**6.3**

**Start Thinking!**

For use before Lesson 6.3

Write your age in years and months. Then convert the age to a mixed number in simplest form.

After all students in the class have written their ages as mixed numbers, line up in order from youngest to oldest by comparing the mixed numbers.

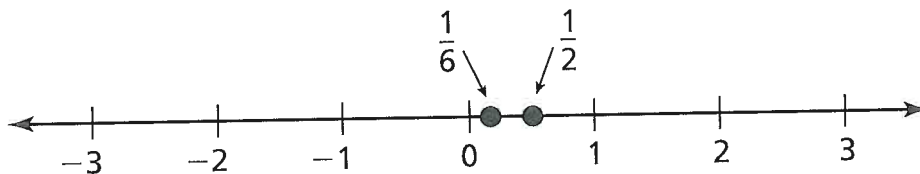
**Lesson**  
**6.3**

**Warm Up**

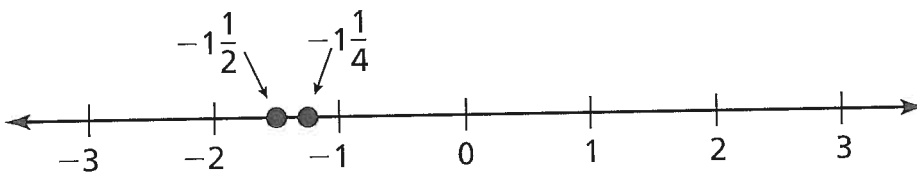
For use before Lesson 6.3

**Find a fraction or a mixed number that is between the two numbers.**

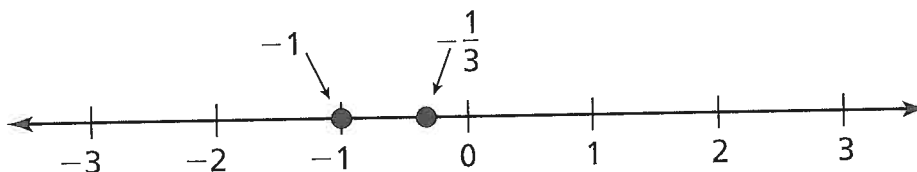
1.



2.



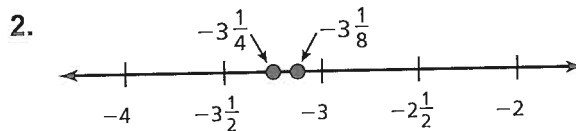
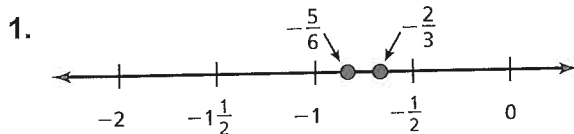
3.



# 6.3

## Practice B

Find a fraction or mixed number that is between the two numbers.



Copy and complete the statement using  $<$  or  $>$ .

3.  $\frac{2}{9}$   $\underline{\quad ? \quad}$   $\frac{1}{3}$

4.  $-1\frac{6}{10}$   $\underline{\quad ? \quad}$   $-1\frac{3}{10}$

5.  $\frac{2}{5}$   $\underline{\quad ? \quad}$   $\frac{3}{10}$

6.  $-1\frac{2}{3}$   $\underline{\quad ? \quad}$   $-1\frac{1}{2}$

7.  $-6.3$   $\underline{\quad ? \quad}$   $-4.9$

8.  $-0.11$   $\underline{\quad ? \quad}$   $-0.44$

9.  $-2.05$   $\underline{\quad ? \quad}$   $-2.50$

10.  $-4.9$   $\underline{\quad ? \quad}$   $-4.6$

Order the numbers from least to greatest.

11.  $-\frac{5}{8}, -\frac{3}{4}, -1\frac{1}{8}, -\frac{3}{8}, -1\frac{1}{4}$

12.  $0.7, -0.3, 0, 0.25, -0.37$

13. Two runners slow down. One decelerates at  $-\frac{5}{8}$  ft/sec<sup>2</sup> and the second at  $-\frac{3}{5}$  ft/sec<sup>2</sup>. Which runner slowed down more?

14. In physics, positive speeds denote upward motion and negative speeds denote downward motion. The table gives the speed of a ball thrown upward at a rate of 20.0 meters per second.

Time (seconds)	0	1	2	3	4
Speed (meters/second)	20.0	10.2	0.4	-9.4	-19.2

- When was the speed greatest going upward?
- When was the speed greatest going downward?
- Between what two times was the speed zero? What does a speed of 0 mean?

15. A stock lost value on both Monday and Tuesday. On Monday, it changed by  $-5.7$  points, and on Tuesday it changed by  $-3.8$  points. On which day did it drop the least?





## Puzzle Time

### What Did One Plate Say To The Other Plate?

Write the letter of each answer in the box containing the exercise number.

Which number is greater?

1.  $-\frac{1}{2}, \frac{3}{5}$

2.  $-\frac{2}{3}, -\frac{5}{6}$

3.  $-5\frac{1}{4}, -5\frac{1}{2}$

4.  $-2\frac{7}{8}, -2\frac{3}{4}$

5. 4.8, -4.2

6. -21.5, -21.05

7. -3.07, -3.14

Order the numbers from least to greatest.

8. 3.4, -4, -2.7, 0, -2.85

9. 3,  $-2\frac{1}{4}$ ,  $-2\frac{1}{6}$ ,  $3\frac{1}{5}$ ,  $-2\frac{3}{4}$

10. Use a number line to determine which number is between -4.4 and -5.8.

A. -5.68      B. -4.14      C. -5.92

11. Use a number line to determine which number is between -2.61 and -5.49.

A. -2.49      B. -5.51      C. -3.11

#### Answers

H.  $-2\frac{3}{4}, -2\frac{1}{4}, -2\frac{1}{6}, 3, 3\frac{1}{5}$

O.  $-\frac{2}{3}$

M. -21.05

N.  $\frac{3}{5}$

E.  $-2\frac{3}{4}$

N. -3.07

U. A

S. 4.8

L. -4, -2.85, -2.7, 0, 3.4

C.  $-5\frac{1}{4}$

I. C

8	10	1	3	9		11	5		2	7		6	4
---	----	---	---	---	--	----	---	--	---	---	--	---	---

**Lesson**  
**6.4**

**Start Thinking!**

For use before Lesson 6.4

**Use the true statements below to make a conjecture about how to find the absolute value of an integer.**

The absolute value of 4 is 4.

The absolute value of 17 is 17.

The absolute value of 0 is 0.

The absolute value of  $-3$  is 3.

The absolute value of  $-11$  is 11.

**Lesson**  
**6.4**

**Warm Up**

For use before Lesson 6.4

**Use a vertical number line to graph the location of each object. Then tell which object is farther from sea level.**

1. Transparent sea cucumber:  $-2750$  m  
Dumbo octopus:  $-3500$  m

2. Snorkeler:  $-1$  m  
Mast of a sailboat:  $10$  m

3. Shark:  $-1500$  m  
Submarine:  $-1000$  m

## 6.4 Practice A

Use a vertical number line to graph the location of each object. Then tell which object is farther from sea level.

1. Manatee:  $-2$  m

Flounder:  $-13$  m

2. Snapper:  $-8$  m

Osprey:  $7$  m

Find the absolute value.

3.  $|-4|$

4.  $|-1|$

5.  $|5.2|$

6.  $|-12|$

7.  $\left|2\frac{1}{3}\right|$

8.  $|-51|$

9.  $\left|-\frac{5}{6}\right|$

10.  $|-38|$

11.  $|40|$

12. Describe and correct the error in finding the absolute value.

$\times$	$ -20  = -20$
----------	---------------

Copy and complete the statement using  $<$ ,  $>$ , or  $=$ .

13.  $|-6|$  ?  $4$

14.  $10$  ?  $|-10|$

15.  $|-4.5|$  ?  $|-5.2|$

16.  $\left|\frac{2}{3}\right|$  ?  $\left|-\frac{1}{6}\right|$

17. In a sailboat race series, a boat's score indicates the number of points it is behind the winning boat. Your boat has score  $-18$  and your friend's boat has score  $-23$ .

- Find the absolute value score of each boat.
- Whose boat is farther behind the winning boat?

Order the values from least to greatest.

18.  $0, |-3|, 1, -2, |5|$

19.  $|3|, |-1|, -3, |-5|, -5$

Tell whether the statement is *always*, *sometimes*, or *never* true. Explain.

20. The absolute value of a negative number is its opposite.

21. The absolute value of a number is less than the number.

22. The absolute value of a negative number is equal to the number.



# Puzzle Time

## Did You Hear About The...

A	B	C	D	E	F
G	H	I	J	K	L
M	N	O	P		

Complete each exercise. Find the answer in the answer column. Write the word under the answer in the box containing the exercise letter.

27 BECAME
-3, -1, $ -2 $ , $ -4 $ IN
$\frac{1}{8}$ BASEBALL
$-16^{\circ}\text{F}$ COULD
-9, -6, 0, $ -9 $ BULL
12.72 AND
$-2^{\circ}\text{F}$ BE
4 MATADOR
$\frac{6}{7}$ CATCHER

**Find the absolute value.**

- A.  $|-4|$                       B.  $|6|$   
 C.  $|-27|$                       D.  $|18|$   
 E.  $|\frac{1}{8}|$                       F.  $|-4\frac{1}{3}|$   
 G.  $|-12.72|$                       H.  $|-9.61|$

**Tell which temperature is closest to  $0^{\circ}\text{F}$ .**

- I. Anchorage:  $-16^{\circ}\text{F}$  or Richmond:  $46^{\circ}\text{F}$   
 J. Minneapolis:  $-22^{\circ}\text{F}$  or New York:  $20^{\circ}\text{F}$   
 K. Boston:  $-2^{\circ}\text{F}$  or Washington:  $38^{\circ}\text{F}$   
 L. Detroit:  $-19^{\circ}\text{F}$  or Chicago:  $-8^{\circ}\text{F}$

**Order the values from least to greatest.**

- M.  $|-2|$ ,  $-3$ ,  $-1$ ,  $|-4|$   
 N.  $-5$ ,  $|-7|$ ,  $-9$ ,  $|-3|$   
 O.  $-6$ ,  $0$ ,  $|-9|$ ,  $-9$   
 P.  $|-5|$ ,  $-5$ ,  $-3$ ,  $|-3|$

6 WHO
$-8^{\circ}\text{F}$ FOUND
9.61 HE
-5, -3, $ -3 $ , $ -5 $ PEN
18 A
$20^{\circ}\text{F}$ ALWAYS
-9, -5, $ -3 $ , $ -7 $ THE
$4\frac{1}{3}$ PLAYER
$\frac{2}{3}$ UMPIRE