

1. Write an integer to represent each of the following situations:

a) A company loses \$345,000 in 2011. _____

b) You earned \$25 for dog sitting. _____

c) Jacob owes his dad \$5. _____

What does *zero* mean in this situation? _____

d) The temperature of the sun's surface is about 5,600 °C. _____

e) The temperature outside is 4 degrees below 0. _____

f) Jessica withdrew \$25 from her bank account. _____

What does *zero* mean in this situation? _____

2. Scientists are studying temperatures and weather patterns in the Northern Hemisphere. They recorded temperatures (in degrees Celsius) in the table below. Represent each reported temperature using an integer.

Temperatures as Reported	8 below zero	12	-4	13 below zero	0	2 above zero	6 below zero	-5
Temperature (°C)								

Order the temperatures from least to greatest.

3. Yesterday's 7 A.M. temperature for four towns in ski country are shown in the table.

a) Which town was the coldest?

a) Which town was the warmest?

c) Which town had a temperature closest to 0?

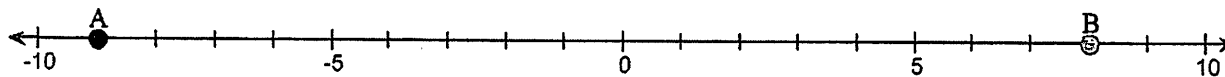
d) How much colder was the coldest town than the warmest town?

Ski Country Temperatures	
Town	Temperatures (°F)
Icy Falls	-8
Snow Mountain	5
Winterville	-7
Cold Valley	-6

4. Which situation can the integer -10 represent?

- ☐ A. spending 10 dollars ☐ C. gaining 10 yards
☐ B. walking up 10 stairs ☐ D. earning 10 dollars

5. **Error Analysis** Your friend incorrectly says that point A and point B represent opposite integers.



a) What is the opposite of the integer represented by point A?

b) What is the opposite of the integer represented by point B?

c) Why is your friend incorrect?

- ☐ A. The distance from 0 to point A is greater than the distance from 0 to point B.
☐ B. The distance from 0 to point A is less than the distance from 0 to point B.
☐ C. Points A and B are not on opposite sides of 0.
☐ D. Points A and B are not the same point.

6. **Open-Ended** Which situations(s) could be represented by -104 ? Check all that apply.

- ☐ A. skiing 104 ft down a mountain
☐ B. a bird flying 104 ft above the ground
☐ C. spending \$104 on vacation
☐ D. earning \$104 at your summer job

Reasoning Two people are scuba diving. One diver is 36 ft below the surface. The other is 44 ft below the surface.

a) What integers represent where the divers are with respect to the surface?

b) Which diver is deeper?

1. Write an integer to represent each of the following situations:

a) A company loses \$345,000 in 2011. - 345,000b) You earned \$25 for dog sitting. + 25c) Jacob owes his dad \$5. - 5What does zero mean in this situation? Before Jacob borrowed \$d) The temperature of the sun's surface is about 5,600 °C. + 5,600e) The temperature outside is 4 degrees below 0. - 4f) Jessica withdrew \$25 from her bank account. - 25What does zero mean in this situation? Bank account ~~when~~ amount before withdrawal

2. Scientists are studying temperatures and weather patterns in the Northern Hemisphere. They recorded temperatures (in degrees Celsius) in the table below. Represent each reported temperature using an integer.

Temperatures as Reported	8 below zero	12	-4	13 below zero	0	2 above zero	6 below zero	-5
Temperature (°C)	-8	12	-4	-13	0	2	-6	-5

Order the temperatures from least to greatest.-13, -8, -6, -5, -4, 0, 2, 12

3. Yesterday's 7 A.M. temperature for four towns in ski country are shown in the table.

a) Which town was the coldest?

Icy Falls

a) Which town was the warmest?

Snow Mountain

c) Which town had a temperature closest to 0?

Snow Mountain

Ski Country Temperatures	
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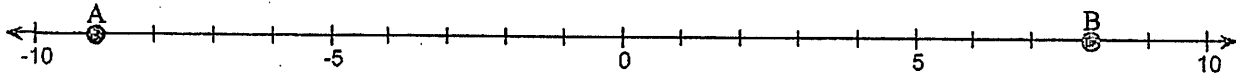
d) How much colder was the coldest town than the warmest town?

13°

4. Which situation can the integer -10 represent?

- ☒ A. spending 10 dollars
- ☐ B. walking up 10 stairs
- ☐ C. gaining 10 yards
- ☐ D. earning 10 dollars

5. **Error Analysis** Your friend incorrectly says that point A and point B represent opposite integers.



a) What is the opposite of the integer represented by point A?

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b) What is the opposite of the integer represented by point B?

-8

c) Why is your friend incorrect?

- ☒ A. The distance from 0 to point A is greater than the distance from 0 to point B.
- ☐ B. The distance from 0 to point A is less than the distance from 0 to point B.
- ☐ C. Points A and B are not on opposite sides of 0.
- ☐ D. Points A and B are not the same point.

6. **Open-Ended** Which situations(s) could be represented by -104 ? Check all that apply.

- ☒ A. skiing 104 ft down a mountain if 0 represents the top of the mountain
- ☐ B. a bird flying 104 ft above the ground
- ☒ C. spending \$104 on vacation
- ☐ D. earning \$104 at your summer job

Reasoning Two people are scuba diving. One diver is 36 ft below the surface. The other is 44 ft below the surface.

a) What integers represent where the divers are with respect to the surface?

-36 and -44

b) Which diver is deeper?

The one 44 ft below the surface