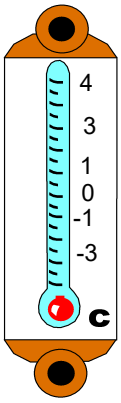
Warm Up Grade 6
Sept. 9, 2018



a. What number are opposite integers?
Why? 3, -3 → Same distance from zero
1, -1

b. What numbers are not opposite integers?
Why? 4, 3 → they are NOT the same distance from zero
(more than 1 answer)

#2) Write an integer for the following situation:

- A person walks up 8 flights for stairs +8

- An elevator goes down 7 floors -7

- The temperature falls by 7 degrees -7

- Josh deposits $110 dollars in the bank +110

- The peak of the mountains is 1123 m above sea level +1123

Class/Homework (Flex)

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#5(abcd)
#6ace
#7ab
9abcd
10a

Homework solutions

1a)  is - 7

1c) is +4

2a) -6 is 

2c) +5 is

5a) dug 1m is -1m

5b) deposited $50 is +$50

5c) a plane an alitude of 11 000m is +11 000m

5d) Submarine at depth of 400m is -400m

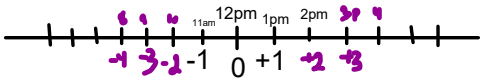
6. Use an integer to represent each situation.
Then use yellow or red tiles to model each integer. Draw the tiles.

a) 12°C below zero
b) 10 m above sea level
c) 9 s before take-off
d) a drop of $2 in the price of a movie ticket
e) a parking spot 5 levels below ground level

7. Describe a situation that could be represented by each integer.

a) 125 b) −22 c) −900
d) 42 000 e) 4

9) Bonus 0 is 12 noon



9a) 1pm is

9b) 10am is

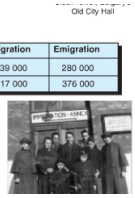
9c) 12 midnight is (since same day)

9d) 10pm previous day

10. Statistics Canada reported these data about Canada's population.

Years	Births	Deaths	Immigration	Emigration
1961–1966	2 249 000	731 000	539 000	280 000
1996–2001	1 705 000	1 089 000	1 217 000	376 000

a) Which numbers can be represented by positive integers? By negative integers? Explain your choices.
b) Choose one time period. Use a number line to explain the relationship between births and deaths.



The difference between "immigrate" and "emigrate" is that "immigrating" is the act of entering a foreign country to live while "emigrating" is the act of leaving a country to live in another.

Birth & Immigration causes population to increase so it is +

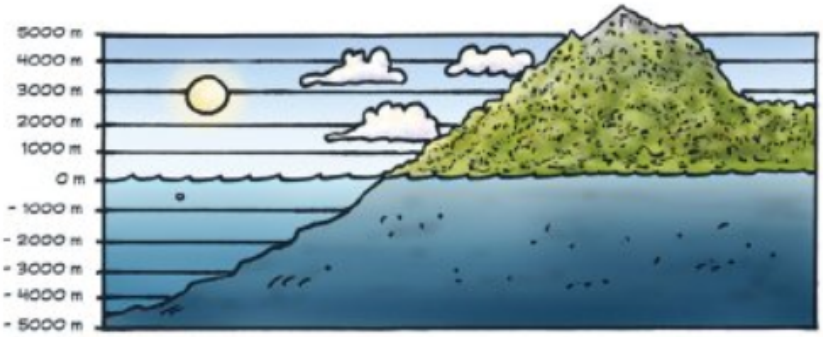
Death & emigration causes population to decrease so it is -

Day 2) Ch. 2 Lesson 9

LESSON 9

Comparing and Ordering Integers

Elevation is the height above or below sea level. Elevation influences climate and how people live. For example, crops will not grow at elevations above 5300 m.

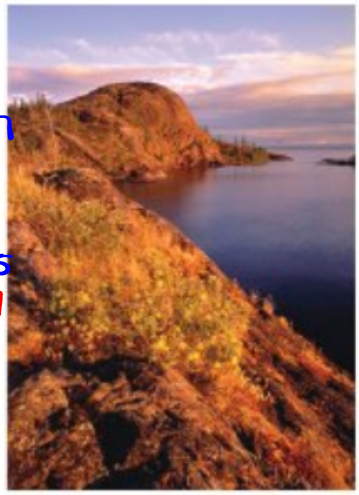


Explore

Here are some examples of extreme elevations around the world.

Place	Elevation
Vinson Massif, Antarctica	4897 m above sea level
Dead Sea, Israel/Jordan	411 m below sea level
Bottom of Great Slave Lake, Canada	458 m below sea level
Mt. Nowshak, Afghanistan	7485 m above sea level
Challenger Deep, Pacific Ocean	10 924 m below sea level

+4897
-411
-458
+7485
-10 924



Great Slave Lake, NWT

Watch your signs 

Order *all* the elevations from least to greatest.

+7485
+4897
-411
-458
-10 924

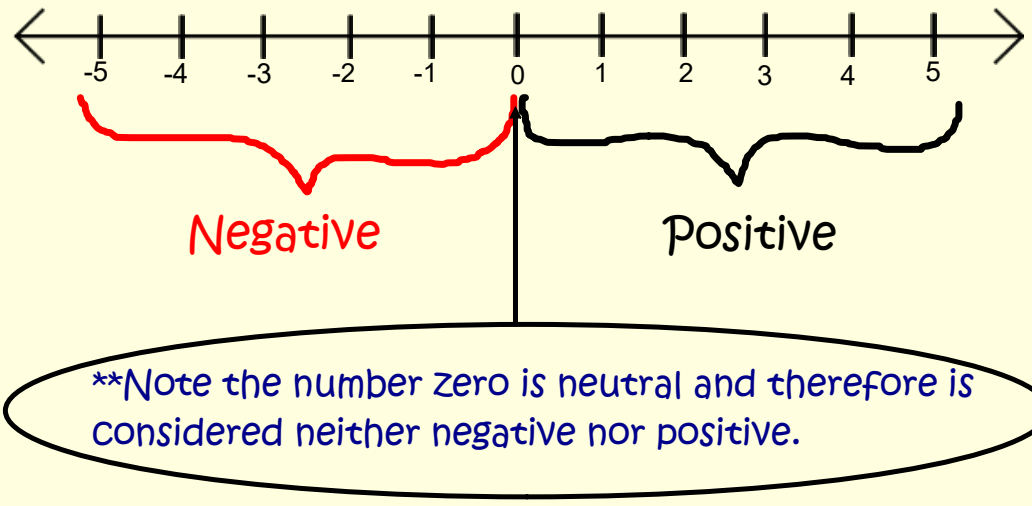
Show and Share

What strategies did you use to order the elevations? What other ways could you display these data to show the different elevations?

copy

~~Comparing and Ordering Integers~~

~~A~~ basic integer number line has all of the negative integers located to the left of zero and all of the positive integers located to the right of the zero.



**Note the number zero is neutral and therefore is considered neither negative nor positive.

Copy only the underlined yellow

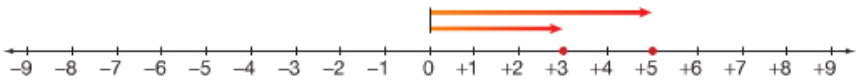
Connect

copy this

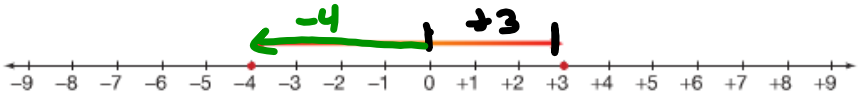
big mouth big number > small mouth small number

We can use a number line to order integers.

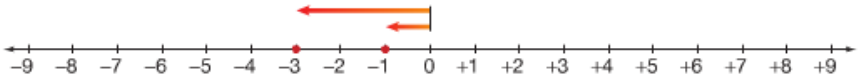
➤ We use the symbols > and < to show order.
The symbol points to the lesser number.



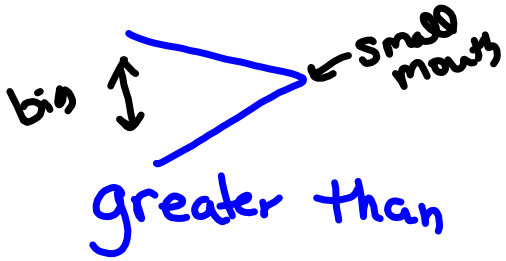
+5 is to the right of +3 on a number line.
+5 is greater than +3, so we write: +5 > +3
+3 is less than +5, so we write: +3 < +5



+3 is to the right of −4 on a number line.
+3 is greater than −4, so we write: +3 > −4
−4 is less than +3, so we write: −4 < +3



−3 is to the left of −1 on a number line.
−3 is less than −1, so we write: −3 < −1
−1 is greater than −3, so we write: −1 > −3



10 > 8

Bigger

Copy

Fill in the blank with < or >

$8 \boxed{>} -8$

no symbol means ⊕

$+9 \boxed{>} -2$

Bigger

$+3 \boxed{=} 3$

no symbol is ⊕

$+10 \boxed{>} +4$

Bigger

+ ⇒ have

− ⇒ owe

$-7 \boxed{<} -2$

owe mom $7

owe mom $2

Bigger

Better for us (closer to being ⊕)

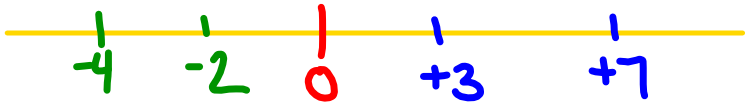
Let's try together

Order the following numbers on a number line then rewrite from smallest to largest (ascending)

+7, -2, +3, 0, -4

biggest

smallest



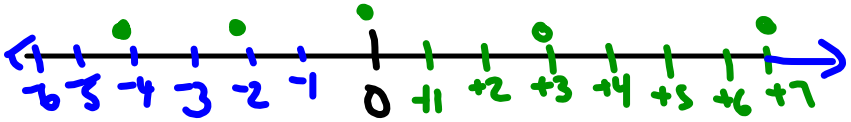
Hint:
draw a standard #line then place dots over the indicated integers

Money
⊕ Have (good)
⊖ owe (bad)

smallest
-4

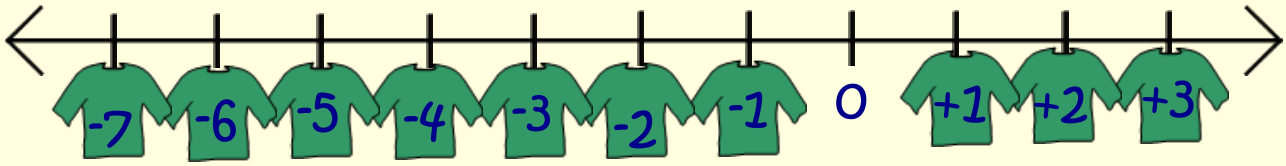
0

largest
7



don't do

See if you can hang the integers below in their correct position on the integer line.



Remove to reveal the correct answer

Ordering Integers

Are you are able to put the following set of integers in order from least (smallest) to greatest (biggest) ?

Use the blanks provided to display your answer.

I think money (who owes the most?)

-17 -8 -5 -2 0 +4 +6 +9

✓ ✓ ✓ ✓ ✓ ✓

+4 -5 -2 +9 -17 -8 +6 0

Move this box to reveal the correct order.

Do we need another ?

8 -8

+9 -2

+3 3

+10 +4

Now put their numbers in order from greatest to least. (Decending)

Biggest → Smallest

+10, +9, +8, +4, +3, -2, -8

Class/Homework (Flex)

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#[redacted]

#3a,d

#6 a,b

#7(abcf)

#9ac

#[redacted]

if we need more #11, 12ab, #13

Quiz Wednesday

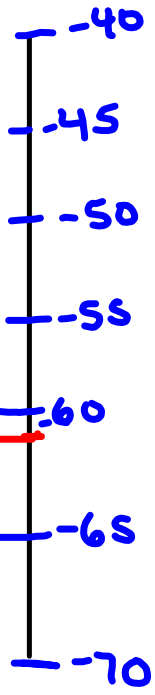
on integers

Model with tiles

represent a scenario

opposites

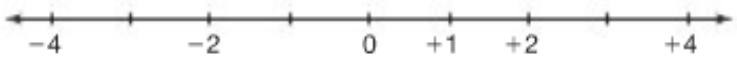
compare



Practice

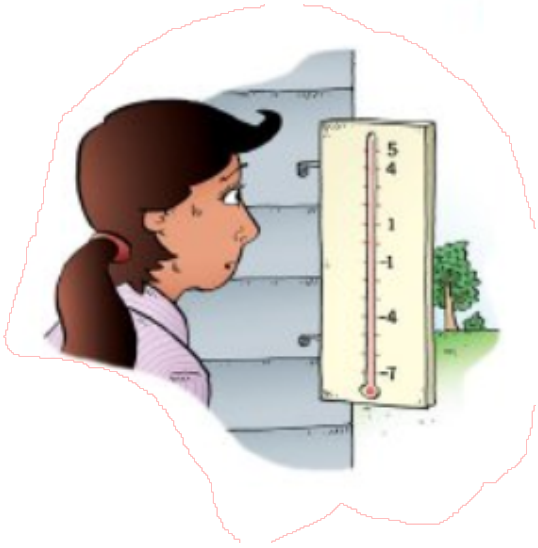
1. Copy each number line. Fill in the missing integers.

a)



b)

2. Six temperature markings are shown on the thermometer.
   a) Which temperatures are greater than 0°C?
   b) Which temperatures are less than 0°C?
   c) Which temperatures are opposite integers? How do you know?



3. Which integer is greater? How did you find out?

a) $+4, +3$ b) $+4, -3$ c) $-4, +3$ d) $-4, -3$

4. Mark each set of integers on a number line.
   Use the number line to order the integers from least to greatest.
   a) $+5, +13, +1$ b) $-3, -5, -4$ c) $+4, -2, +3$

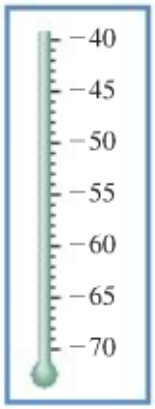
5. Use a number line. Order the integers in each set from greatest to least.

a) $+4, +1, +8$ b) $-7, -5, -3$ c) $0, +4, -4$

6. This table shows the coldest temperatures ever recorded in 6 provinces and territories.

   a) Draw a thermometer like the one shown. Mark each temperature on it.

Province/ Territory	Coldest Temperature (°C)
Alberta	−61
Manitoba	−53
Nova Scotia	−47
Nunavut	−64
Ontario	−58
Quebec	−54



Dog Sledding in Nunavut

   b) Order the temperatures in part a from least to greatest. How can you use your thermometer to do this?

7. Copy and complete by placing $<$, $>$, or $=$ between the integers. Then, use a number line to verify your answer.

a) $+5 \square +10$ **b)** $-5 \square -10$ **c)** $+5 \square 5$ **d)** $-6 \square 0$

e) $-5 \square -4$ **f)** $10 \square -11$ **g)** $-8 \square -4$ **h)** $-8 \square -8$

8. Look at the integers in the box.

a) Which integers are:

i) greater than 0?

ii) between −3 and +3?

iii) greater than −10 and less than −5?

iv) less than +1?

b) What other questions can you ask about these integers? Write down your questions and answer them.

	+4	
−8		−5
	+9	
0		+8

9. Order the integers in each set from least to greatest.

a) $+5, -5, +4, +2, -2$

b) $-8, -12, +10, 0, -10$

c) $+41, -39, -41, -15, -25$

d) $+1, -1, +2, -2, +3$

10. Order the integers in each set from greatest to least.

a) $-7, +8, -9, +10, -11$

b) $-18, 16, -11, -4, +6$

c) $0, +1, +2, -1, -2$

d) $+14, -25, -30, +3, -10$

11. On January 16, 2008, these temperatures were recorded in Canada.

Place	Temperature	Place	Temperature
Lethbridge, AB	–16°C	Iqaluit, NU	–29°C
La Ronge, SK	–27°C	Dawson City, YT	–26°C
Hay River, NWT	–29°C	Prince George, BC	–6°C
Campbell River, BC	0°C	Ste. Rose du Lac, MB	–17°C

Which place was the warmest? The coldest? How did you find out?

12. **a)** Which of these integers are greater than -6? How do you know?

$-3,\ +2,\ -7,\ -5$

b) Which of these integers are less than -3? How do you know?

$+2,\ -11,\ +3,\ -2,\ -4$

13. You know that 8 is greater than 3. Explain why -8 is less than -3.