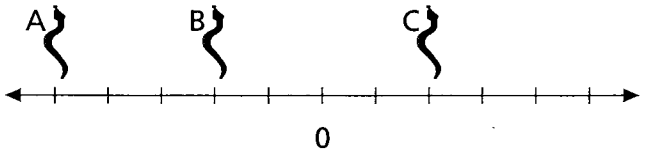
Checking

1. a) Write an integer to describe each cursor position.



b) Which arrow key would you press to move the cursor from 0 to each integer? How many times would you press the arrow key for each integer?

2. What integers are between -5 and $+5$? Use a number line.

Practising

3. Use each clue and a number line to identify an integer.

a) It is the same distance from 0 as $+3$ is from 0.

b) It is between -3 and -5.

c) It is the next integer to the right of -2.

d) It is halfway between 0 and -10.

4. What integers are between each pair of integers? Use a number line.

a) -4 and $+4$

b) -3 and 0

c) -2 and -5

d) 0 and -1

5. In a countdown to a rocket launch, the time 5 s before takeoff is called "T minus five seconds." The time 5 s after takeoff is called "T plus five seconds." Use launch words to describe each integer.

a) 0

b) -60

c) $+10$

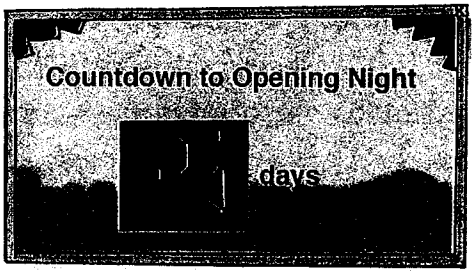
6. Choose one of the following situations, or think of a different situation. Show how you can use positive and negative integers to represent this situation.

- days before and after your birthday
- kilometres north and south of your town
- money taken from or added to a piggy bank

CURIOUS MATH

Countdown Clock

Jason has a clock on his computer that he is using to keep track of the number of days before and after the opening night of the school play.



1. What does the integer on the clock represent?
2. What integers will the clock show on the next five days?
3. What integer will the clock show on opening night?
4. What integer would you use to represent the third day after the opening night?
5. Choose the date of a special event that might be included on a countdown clock. Explain what the integers -3, 0, and $+3$ would represent on your clock.

Chapter 3
Lesson 8

Comparing and Ordering Integers

You will need
- number lines

GOAL

Use a number line to compare and order integers.

Léa did a report on climate change in Canada. She included a chart showing typical temperatures in the capital cities of the Western provinces and Northern territories.

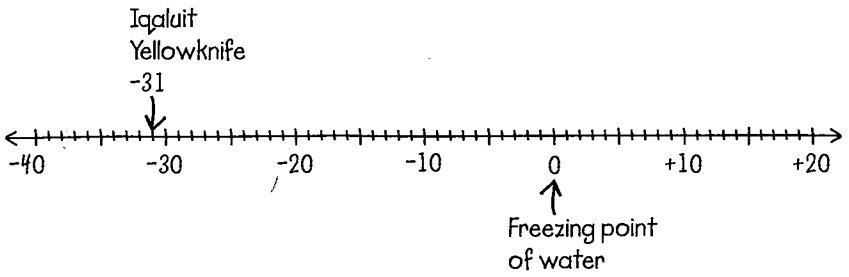
Typical January Temperatures

City	Low (°C)	High (°C)
Edmonton	−19	−8
Iqaluit	−31	−22
Regina	−21	−11
Victoria	+1	+7
Whitehorse	−22	−13
Winnipeg	−23	−13
Yellowknife	−31	−23

What is the order of the temperatures from coldest to warmest?

Léa's Comparison

My number line looks like a thermometer placed on its side. I marked 0 °C and the low temperature for Iqaluit and Yellowknife.



I'll mark the other low temperatures on the number line to figure out the order of the temperatures.

A. How does an integer tell you whether a temperature is above or below the freezing point of water?

B. Mark each low temperature on a number line like Léa's. Which temperature is colder, –21 °C or –22 °C?

C. How can you tell that −31 °C is the coldest temperature in the chart?

D. Write the low temperatures in order from coldest to warmest. Explain what you did.

E. Write the high temperatures in order from coldest to warmest.

Reflecting

F. How can you decide which is warmer when comparing a positive temperature with a negative temperature?

G. How can you decide which of two negative temperatures is warmer? How is this the same as comparing two positive temperatures? Use examples to explain.