

EXAMPLE

On a certain February day, the daytime temperature in Toronto was -12°C and -22°C at night.

- a. What was the change in temperature from day to night?

$$-22 - (-12) = -10$$

Answer: There was a drop of 10°C from day to night.

- b. What was the average temperature over the day and night?

$$(-22 + (-12)) \div 2 = (-22 - 12) \div 2 = (-34) \div 2 = -17$$

Answer: The average temperature over the day and night was -17°C .

Complete each of the statements with 'always', 'sometimes' or 'never'.

- ① The sum of 2 positive integers is _____ positive.
- ② The sum of a positive integer and a negative integer is _____ negative.
- ③ The sum of 2 negative integers is _____ positive.
- ④ A positive integer is _____ smaller than a negative integer.
- ⑤ If 2 integers are negative, then the one closer to zero is _____ greater.

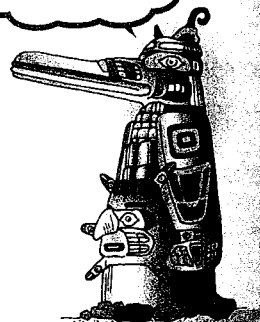
Solve the problems. Show your work.

- ⑥ What is the sum of two opposite numbers? Explain your answer with a number line.

Answer: _____

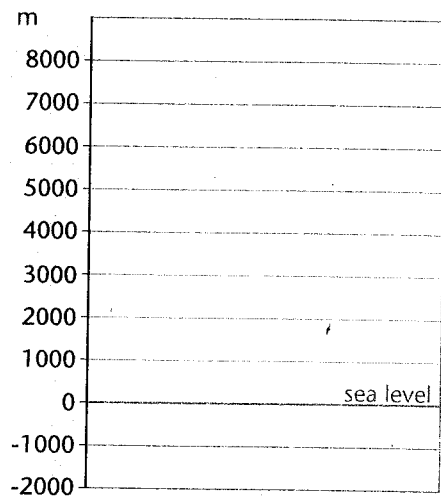
- Opposite numbers are two numbers that are the same distance from zero but in opposite directions on a number line, e.g. $+5$ and -5 .

Read this first.



- ⑦ A vulture can fly at a height of 8000 m. A goose can only fly at 1000 m. A turtle can dive to a depth of 1200 m.

- a. Represent these values as integers on the diagram. b. Determine the sum of these integers.



Answer : _____

- c. What is the difference between the heights of the vulture and the goose?

Answer : _____

- d. What is the difference between the heights of the vulture and the turtle?

Answer : _____

- ⑧ Mount Logan in Yukon is 5900 m high. A trench under the Pacific Ocean is 11 000 m below sea level.

- a. Write each of the measurements as integers.

Answer : _____

- b. Would Mount Logan be seen as an island if it rose from the floor of the trench? Explain with an integer-expression.

Answer : _____

- ⑨ The initial price of MBank Stock was $\$23\frac{1}{8}$. The following changes were recorded from Monday to Friday last week: down $\$2\frac{1}{4}$, up $\$2\frac{3}{4}$, down $\$3\frac{1}{2}$, up $\$2$ and down $\$3\frac{3}{4}$.

- a. Write an integer-expression to show the changes.

Answer : _____

- b. Mr Smith bought 1000 units of MBank shares last Monday and sold all of them on Friday. How much did he gain or lose?

Answer : _____

⑩ The minimum surface temperatures of some planets are given in the chart.

a. Which planet is the coldest?

Answer : _____

Planet	Minimum temperature
Mercury	-184°C
Earth	-90°C
Mars	-123°C

b. What is the difference between the minimum temperatures of the earth and Mars?

Answer : _____

c. List the temperatures in order using > or < signs.

Answer : _____

⑪ The sum of temperatures in Winnipeg and Calgary on a cold winter day was -35°C . If the temperature in Winnipeg was -19°C ,

a. what was the temperature in Calgary?

Answer : _____

b. what was the difference between the temperatures?

Answer : _____

⑫ Study the graph which shows the temperatures in Toronto from January 1 to January 7, 1999.

a. Write an integer-expression to show the change in daily temperature from January 1 to January 7.

Answer : _____

b. If the temperature on January 8 was down 7°C , what was the temperature that day?

Answer : _____

