Math 7 Unit 1 worksheet: Temperatures below zero and temperature change

Name _____ Date _____ Period _____

1. Find the change in temperature from the first reading to the second, and say whether it is a rise or a fall.

(a) −8°C to 5°C

(b) 6°C to −10°C

(c) −15°F to −4°F

(d) −7°F to −21°F

(e) 0°C to −12°C

(f) −19°C to 0°C

2. Each row of the table is one temperature change, in degrees Celsius, so that earlier + change = later. Fill in each blank.

Earlier	Change	Later
−9	14	_____
3	_____	−11
_____	−6	−17
−20	_____	−2
_____	8	−13

3. A clinic keeps a vaccine in a storage unit that must stay from −25°C to −15°C, including both of those readings. The log for one week shows:

Day	Mon	Tue	Wed	Thu	Fri	Sat
Reading (°C)	−18	−27	−15	−11	−24	−26

(a) On which days was the reading inside the safe range?

(b) For each day outside the range, say whether the unit was too warm or too cold, and by how many degrees the reading missed the range.

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4. Sofia found the change in temperature from −3°C at dawn to −11°C at midnight like this:

$$-11 - (-3) = -14$$

She wrote: "The temperature fell 14 degrees."

(a) What mistake did Sofia make?

(b) Find the correct change, and check it by adding it to the dawn reading.

5. Just before take-off, a plane's display shows an outside air temperature of 12°C. At cruising height it shows −49°C. The plane lands in a city where the air is −11°C.

(a) Find the change in the outside temperature from take-off to cruising height.

(b) Find the change from cruising height to landing.

6. Between 3 p.m. and 9 p.m. the temperature at Jack's campsite fell 14 degrees. Between 9 p.m. and dawn it fell 6 more degrees, and at dawn the thermometer read −16°F.

(a) What was the temperature at 9 p.m.?

(b) What was it at 3 p.m.?

7. On a winter evening the thermometer inside Maya's cabin reads 17°C and the one outside reads −7°C.

(a) How many degrees warmer is it inside than outside?

(b) Overnight the stove goes out. By morning the inside temperature has fallen 4 degrees and the outside temperature has fallen 9 degrees. Find both morning readings.

(c) In the morning, are the two readings closer together or farther apart than in the evening, and by how many degrees?

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