DIRECTED NUMBERS

- **Directed numbers are those numbers which have a sign. We use directed numbers to record quantities like temperature.**
- **Also it is important to note that 54 is greater than 24 ; but -54 is less than -24**
- **Questions asked in the exams include :**
  - ✓ Identifying the lowest number (Example: Lowest temperature)
  - ✓ Range of the given quantity(Example: range of temperature). Note that range is the difference between the highest and the lowest temperature

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EXAMPLE:

1 During one week in April, in Quebec, the daily minimum temperatures were **0580/23/M/J/10**

–5°C, –1°C, 3°C, 2°C, –2°C, 0°C, 6°C.

Write down

(a) the lowest of these temperatures,

Answer(a) ..... °C [1]

(b) the range of these temperatures.

Answer(b) ..... °C [1]

Solution:

(a)The lowest temperature is the biggest number with a negative sign. Hence -5^0C is the lowest temperature.

(b) The range is the difference between the highest and the lowest temperature.

Highest temperature= 6^0C.

Lowest temperature= -5^0C

Hence Range= Highest temperature - Lowest temperature=$6^0C-(-5^0C)=11^0C$

also Range= Lowest temperature -Highest temperature = $-5^0C-6^0C-= -11^0C$ is accepted as per mark schemes

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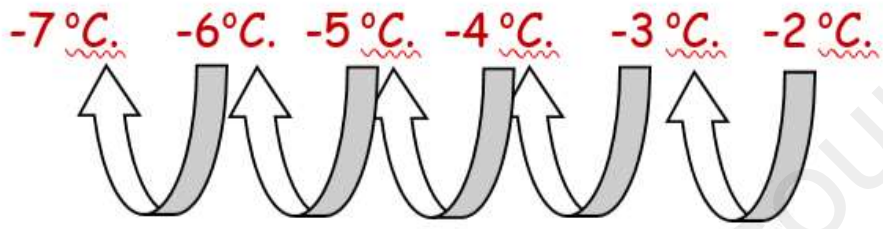
Example: 2

1 Write down the temperature which is 5 °C below –2 °C. **0580/21/O/N/16**

..... °C [1]

In this question, 5 °C below -2 °C means 5 °C less than -2 °C. Hence count backwards 5 units from -2 °C. Hence it is



Another way is : (- 2 °C) – (5 °C) = -7 °C

APPLICATION BASED QUESTIONS:

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1 In March 2011, the average temperature in Kiev was 3°C.
In March 2012, the average temperature in Kiev was 19°C lower than in March 2011.

Write down the average temperature in Kiev in March 2012. **0580/23/M/J/14**

Answer ..... °C [1]

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1 One January day in Munich, the temperature at noon was 3°C.
At midnight the temperature was –8°C. **0580/21/M/J/13**

Write down the difference between these two temperatures.

Answer ..... °C [1]

1 At noon the temperature was 4 °C.
At midnight the temperature was –5.5 °C.

Work out the difference in temperature between noon and midnight.

0580/21/M/J/15

Answer ..... °C [1]

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0580/21/M/J/15

Answer ..... °C [1]

1 On a mountain, the temperature decreases by 6.5 °C for every 1000 metres increase in height.
At 2000 metres the temperature is 10 °C.

Find the temperature at 6000 metres.

0580/21/O/N/12

Answer ..... °C [2]

----------End of lesson----------

--------Happy Learning---------