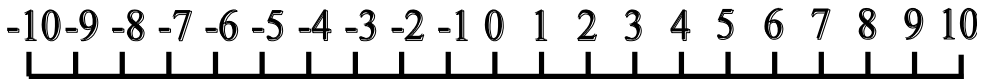


Negative Numbers



Exercise 1

- 1) Draw a Celsius thermometer and mark a scale on it from -10° to $+10^{\circ}$. Use your drawing to write the following temperatures as positive or negative numbers:–
 - a) 10° above freezing point
 - b) 7° below freezing point
 - c) 3° below zero
 - d) 5° above zero
 - e) 8° below zero
 - f) freezing point.
- 2) Write down, in words, the meaning of the following temperatures:–
 - a) -2°C
 - b) $+3^{\circ}\text{C}$
 - c) 4°C
 - d) -10°
 - e) 8°C
 - f) 0°C .
- 3) Which is colder -8°C or -4°C ?
- 4) Is -1°C colder or warmer than -2°C ?
- 5) Which is colder -5°C or -10°C ?
- 6) Which of these temperatures is lowest? -6°C , -4°C , -8°C .
- 7) Which of these temperatures is highest? -10°C , -2°C , -3°C .
- 8) Is 4°C higher or lower than -6°C ?
- 9) Here are some pairs of temperatures.
Write down the higher temperature of each pair.
 - a) 0°C , 5°C
 - b) 0°C , -5°C
 - c) -8°C , -3°C
 - d) 12°C , -16°C .
- 10) What temperature is 5 degrees higher than 2°C ?
- 11) What temperature is 5 degrees lower than 2°C ?
- 12) What temperature is 10 degrees lower than -3°C ?

Exercise 2

- | | | | |
|---------------|---------------|----------------|-----------------|
| 1) $2 - 3$ | 2) $7 - 9$ | 3) $14 - 19$ | 4) $12 - 15$ |
| 5) $6 - 11$ | 6) $9 - 16$ | 7) $18 - 25$ | 8) $3 - 24$ |
| 9) $22 - 38$ | 10) $39 - 54$ | 11) $4 - 37$ | 12) $8 - 47$ |
| 13) $58 - 72$ | 14) $59 - 95$ | 15) $80 - 138$ | 16) $243 - 437$ |

Exercise 3

Calculate the following.

- | | | | |
|------------------|------------------|-------------------|------------------|
| 1) $3 + (-2)$ | 2) $6 + (-4)$ | 3) $4 + (-7)$ | 4) $6 + (-6)$ |
| 5) $11 + (-9)$ | 6) $9 + (-10)$ | 7) $7 + (-16)$ | 8) $-4 + 3$ |
| 9) $-5 + (-5)$ | 10) $-4 + (-10)$ | 11) $-3 + (-12)$ | 12) $-5 + (-3)$ |
| 13) $-8 + (-10)$ | 14) $-10 + (-2)$ | 15) $-3 + (-3)$ | 16) $-5 + (-1)$ |
| 17) $-11 + (-9)$ | 18) $-7 + (-13)$ | 19) $-10 + (-10)$ | 20) $-12 + (-7)$ |
| 21) $-4 + (-4)$ | 22) $-4 + (-2)$ | 23) $-4 + 4$ | 24) $-9 + (-9)$ |
| 25) $-2 + 6$ | 26) $-3 + 10$ | 27) $-3 + 1$ | 28) $-5 + 6$ |
| 29) $-8 + 11$ | 30) $-6 + 1$ | 31) $-3 + 2$ | 32) $-7 + 3$ |
| 33) $-8 + 1$ | 34) $-7 + 2$ | 35) $-8 + 6$ | 36) $-7 + 10$ |
| 37) $-6 + 30$ | 38) $-100 + 1$ | 39) $-8 + 38$ | 40) $5 + (-4)$ |
| 41) $7 + (-3)$ | 42) $-10 + (-4)$ | 43) $6 + (-10)$ | 44) $8 + (-9)$ |
| 45) $-8 + (-12)$ | 46) $-5 + (-6)$ | 47) $-6 + (-2)$ | 48) $8 + (-14)$ |

Exercise 4

- | | | | |
|-----------------|------------------|------------------|-------------------|
| 1) $7 - (-5)$ | 2) $9 - (-1)$ | 3) $7 - (-9)$ | 4) $6 - (-13)$ |
| 5) $9 - (-8)$ | 6) $18 - (-1)$ | 7) $5 - (-19)$ | 8) $2 - (-15)$ |
| 9) $17 - (-15)$ | 10) $29 - (-17)$ | 11) $56 - (-9)$ | 12) $68 - (-27)$ |
| 13) $86 - (-8)$ | 14) $98 - (-1)$ | 15) $59 - (-49)$ | 16) $29 - (-115)$ |

- 17)** $56 - (-34)$ **18)** $99 - (-41)$ **19)** $39 - (-39)$ **20)** $79 - (-135)$
21) $-9 - (-16)$ **22)** $-15 - (-21)$ **23)** $-32 - (-41)$ **24)** $-45 - (-67)$
25) $-92 - (-42)$ **26)** $-115 - (-71)$ **27)** $-232 - (-51)$ **28)** $-345 - (-62)$

29) The table shows information about various cities.

CITY	WINTER TEMPERATURE	SUMMER TEMPERATURE
London	4°C	18°C
Rome	7°C	25°C
Moscow	-9°C	18°C
Johannesburg	10°C	20°C
New York	-1°C	24°C
San Francisco	10°C	17°C
Sydney	11°C	21°C
Wellington(NZ)	8°C	17°C

- a)** Which city has the lowest winter temperature?
b) Which city has the highest winter temperature?
c) Which cities have the lowest summer temperature?
d) Which city has the highest summer temperature?
e) The temperature varies between winter and summer.
 i) By how many degrees does it go up in Rome?
 ii) By how many degrees does it go up in Moscow?
 iii) By how many degrees does it go up in New York?