

Name: _____ Class: _____ Date: _____

Negative numbers show up everywhere – temperature, sea level, money and more. Take your time with each question.

Section A – Number Line Navigator

Use the number line below to help you answer each question.

1. Plot and label these integers on the number line below: -7 , 3 , -2 , 0 , 5 , -9



2. Which integer is 4 units to the **left** of -3 on the number line?

3. Which integer is 6 units to the **right** of -8 on the number line?

Section B – Real World, Below Zero

4. The temperature in a city was -6°C in the morning and dropped by a further 5°C by night. What was the night-time temperature?

5. A submarine is at -120 m (120 metres below sea level). It descends a further 45 metres. What is its new position?

6. A weather station near Mount Everest has recorded temperatures as low as -35°C , while Death Valley has reached 57°C . Which location is colder, and by how many degrees do the two temperatures differ?

7. A scuba diver is at -18 m. A fish is swimming nearby at -7 m. Which of the two is closer to the surface?

Section C – Ordering & Comparing

Be careful – with negative numbers, the one that looks “bigger” isn’t always the greater number!

8. Circle the **smaller** integer in each pair:

a) -8 or -3 b) -15 or -1 c) -2 or -20 d) 0 or -6

9. Arrange from **coldest to warmest**: -12°C , 4°C , -1°C , -19°C , 0°C

10. True or False: $-50 > -5$ **True / False**

11. True or False: A debt of \$80 is worse than a debt of \$30, so $-80 < -30$. **True / False**

Section D – Absolute Value & Distance from Zero

12. Find the absolute value of each number:

$$|-9| = \underline{\quad\quad} \quad |14| = \underline{\quad\quad} \quad |-1| = \underline{\quad\quad} \quad |0| = \underline{\quad\quad}$$

13. Which integer is closer to zero: -12 or 9 ?

14. Two hikers start at base camp, elevation 0 m. One hikes up to $+240$ m, the other descends into a valley to -180 m. Who has travelled further from base camp, and by how much?

Section E – Mystery Integer

Use all the clues together – there is only one number that fits each riddle.

15. I am a negative integer. My absolute value is a two-digit number. The sum of my digits is 7 . My tens digit is greater than my units digit. I am greater than -50 . What number am I?

16. I am a negative integer. When you add -5 to me, the result is -20 . What number am I?

Section F – Word Problems

17. The temperature was -3°C at 6 a.m. By noon it had risen 11°C . By midnight it had fallen 9°C from the noon temperature. What was the temperature at midnight?

18. A lift starts at ground level (floor 0). It travels down 3 floors to the parking garage, then down a further 2 floors to the sub-basement storage area. What floor is it on now?

Answer Key

1. Points plotted at -9 , -7 , -2 , 0 , 3 , 5 on the line
2. -7 (4 units left of -3)
3. -2 (6 units right of -8)
4. -11°C
5. -165 m
6. Everest's base camp is colder; difference = $57 - (-35) = 92^{\circ}\text{C}$
7. The fish at -7 m is closer to the surface
8. a) -8 b) -15 c) -20 d) -6
9. -19°C , -12°C , -1°C , 0°C , 4°C
10. False (-50 is less than -5)
11. True
12. $|-9| = 9$ $|14| = 14$ $|-1| = 1$ $|0| = 0$
13. 9 is closer to zero (distance 9, vs. -12 's distance of 12)
14. The hiker who went to $+240$ m travelled further from base camp (240 m vs. 180 m) – a difference of 60 m
15. -43 ($4 + 3 = 7$, tens $4 >$ units 3 , and $-43 > -50$)
16. -15 ($-15 + (-5) = -20$)
17. -1°C ($-3 + 11 = 8$, then $8 - 9 = -1$)
18. Floor -5