

Introduction to Integers and the Number Line

Unit: Integers - Student Practice Worksheet

Overview: A mountain weather station reported a summit temperature of -8 degrees while the base camp read 15 degrees, the same morning. Pixel needed to tell hikers exactly how many degrees colder the summit was — not just "a lot colder." Whole numbers alone couldn't describe the summit's reading at all.

Practice Questions (30 Total)

Section A - Easy

Q1. The maroon mark is -2, left of zero but closer than -8. Which is greater, -2 or -8?



- ☐ A. -8
- ☐ B. They are equal
- ☐ C. Cannot be determined
- ☐ D. -2

Q2. Which of these is an integer?

- ☐ A. -5
- ☐ B. 2.5
- ☐ C. $\frac{1}{2}$
- ☐ D. 3.14

Q3. Which is greater: -3 or 2?

- ☐ A. -3
- ☐ B. They are equal
- ☐ C. 2
- ☐ D. Cannot be compared

Q4. The maroon side is left of zero. Where do negative integers sit?



- ☐ A. To the right
- ☐ B. To the left
- ☐ C. Directly on zero
- ☐ D. Above zero

Q5. Is 0 a positive or negative integer?

- ☐ A. Neither
- ☐ B. Positive
- ☐ C. Negative
- ☐ D. Both

Q6. How far is -5 from zero on the number line?

- ☐ A. -5
- ☐ B. 0
- ☐ C. 5
- ☐ D. 10

Q7. The maroon mark is -1, nearest zero of the negatives shown. Which is closest to zero?



- ☐ A. -1
- ☐ B. -10
- ☐ C. -100
- ☐ D. -50

Q8. What does a minus sign in front of a number tell you?

- ☐ A. The number is a fraction
- ☐ B. The number is below zero
- ☐ C. The number is doubled

☐ D. Nothing special

Q9. Do integers include fractions like $\frac{1}{2}$?

☐ A. Yes

☐ B. No

☐ C. Only positive fractions

☐ D. Only if simplified

Q10. The summit reading is -8. Say what that means in words, using the number-line idea of below zero.

☐ A. 8 degrees above zero

☐ B. Exactly zero degrees

☐ C. 8 times colder than usual

☐ D. 8 degrees below zero

Section B - Medium

Q11. Count from the maroon -8 across 0 to the teal 15. How many degrees is that gap?



☐ A. 23

☐ B. 7

☐ C. 15

☐ D. 8

Q12. A hiker asks why -2 degrees is described as warmer than -10 degrees. What is the correct explanation?

☐ A. -2 is closer to zero on the number line, so it represents a warmer temperature

☐ B. Negative numbers cannot really be compared

☐ C. -10 is warmer because 10 is a bigger digit

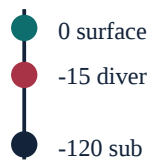
☐ D. Both temperatures are actually equal

Q13. Order these from least to greatest: -4, 3, -10, 0.

☐ A. -4, -10, 0, 3

- ☐ B. -10, -4, 0, 3
- ☐ C. 0, -4, -10, 3
- ☐ D. 3, 0, -4, -10

Q14. On this depth line, -15 sits above -120. Who is closer to the surface?



- ☐ A. The submarine
- ☐ B. They are equally close
- ☐ C. The diver
- ☐ D. Cannot be determined

Q15. Kabir says -0 is different from 0. Is he correct?

- ☐ A. Yes, -0 is slightly negative
- ☐ B. No, -0 and 0 are the same value
- ☐ C. Yes, -0 is slightly positive
- ☐ D. It depends on context

Q16. What is the distance between -6 and -1 on the number line?

- ☐ A. 7
- ☐ B. 5
- ☐ C. 6
- ☐ D. -5

Q17. The maroon mark sits halfway between -8 and 4. What integer is that?



- ☐ A. -4
- ☐ B. 2
- ☐ C. -2
- ☐ D. 0

Q18. Which statement is TRUE?

- ☐ A. -1 is less than -100
- ☐ B. -100 is greater than -1
- ☐ C. -1 equals -100
- ☐ D. -1 is greater than -100

Q19. A lift goes from floor -3 (basement) to floor 5. How many floors does it pass through, including start and end?

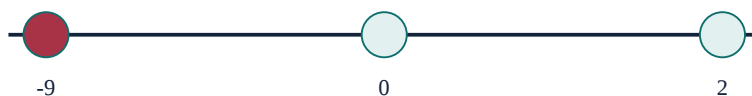
- ☐ A. 8
- ☐ B. 7
- ☐ C. 2
- ☐ D. 9

Q20. Which listed pair sits farthest apart on the number line, and how do you see that?

- ☐ A. -5 and 5
- ☐ B. -5 and -1
- ☐ C. 1 and 5
- ☐ D. -2 and 2

Section C - Challenge

Q21. The maroon mark is -9, the teal is 2. Which day was coldest, and by how many degrees?



- ☐ A. Day with -9 was coldest, 11 degrees colder than the day with 2
- ☐ B. Day with -4 was coldest, 6 degrees colder
- ☐ C. Day with -9 was coldest, 7 degrees colder
- ☐ D. Day with 2 was coldest

Q22. Which is a correct general rule: comparing any two negative integers?

- ☐ A. The smaller digit is the greater value
- ☐ B. The larger digit is always greater
- ☐ C. Negatives can never be compared

☐ D. They are always equal

Q23. If a number x satisfies $-5 < x < -1$, and x is an integer, how many possible values can x take?

☐ A. 4

☐ B. 3

☐ C. 5

☐ D. 2

Q24. The maroon -7 is mirrored across zero. What sits the same distance on the right?



☐ A. -7 itself

☐ B. 0

☐ C. 7

☐ D. 14

Q25. A plane's altitude reading uses negative numbers for depth below sea level and positive for height above. A submarine dives from -50m to -120m. Did it move toward or away from zero, and what does that mean about its value?

☐ A. Toward zero — its value increased

☐ B. Away from zero — its value decreased, becoming more negative

☐ C. It stayed at the same value

☐ D. The direction cannot be determined

Q26. A number's distance from zero is 9, but the number itself is negative. What is the number?

☐ A. 9

☐ B. 0

☐ C. Cannot be determined

☐ D. -9

Q27. The strip adds distances from zero: $6+3+0+5$. What total is that?

$$|-6| + |-3| + |0| + |5|$$

$$6 + 3 + 0 + 5$$

- ☐ A. 4
- ☐ B. -4
- ☐ C. 14
- ☐ D. 10

Q28. If every integer on a number line were multiplied by -1, what would happen to their ORDER (least to greatest)?

- ☐ A. The order would stay exactly the same
- ☐ B. All numbers would become equal
- ☐ C. Only positive numbers would change order
- ☐ D. The order would completely reverse

Q29. A number line question asks for all integers whose distance from zero is exactly 6. How many such integers exist?

- ☐ A. 2
- ☐ B. 1
- ☐ C. 6
- ☐ D. 12

Q30. Is -3.5 an integer? Use the definition (whole numbers and their negatives only) to decide.

- ☐ A. Yes, since it has a minus sign
- ☐ B. No, it has a decimal part
- ☐ C. Yes, all readings are integers
- ☐ D. Only if rounded first

Answer Key

Q1: (D) (d) -2. -2 is closer to zero than -8, making it the larger of the two negative numbers.

Q2: (A) (a) -5. Integers include negative whole numbers; the others are fractions or decimals, not integers.

Q3: (C) (c) 2. Any positive number is always greater than any negative number, regardless of size.

Q4: (B) (b) To the left. Negative integers always sit to the left of zero on a standard number line.

Q5: (A) (a) Neither. Zero sits exactly at the boundary and is neither positive nor negative.

Q6: (C) (c) 5. Distance from zero is always a positive count of steps, regardless of which direction the number sits.

Q7: (A) (a) -1. Among these negative numbers, -1 has the smallest distance from zero.

Q8: (B) (b) The number is below zero. A minus sign marks a negative number, sitting on the opposite side of zero from positive numbers.

Q9: (B) (b) No. Integers are whole numbers and their negatives only — fractions and decimals are not integers.

Q10: (D) (d) 8 degrees below zero. The negative sign directly indicates the reading is below the zero mark.

Q11: (A) (a) 23. Since the two numbers sit on opposite sides of zero, the gap adds their distances from zero: $8 + 15 = 23$.

Q12: (A) (a) -2 is closer to zero on the number line, so it represents a warmer temperature. In real terms, being closer to zero on the negative side means less far below freezing.

Q13: (B) (b) -10, -4, 0, 3. Ordering from smallest to largest moves left to right on the number line: the most negative first, then less negative, then zero, then positive.

Q14: (C) (c) The diver. -15 is closer to zero (the surface) than -120, so the diver is nearer the top.

Q15: (B) (b) No, -0 and 0 are the same value. Zero is neither positive nor negative, so adding a minus sign to it doesn't create a different number.

Q16: (B) (b) 5. Both numbers are on the same side of zero, so the distance is simply the difference between them: $6 - 1 = 5$.

Q17: (C) (c) -2. Halfway between -8 and 4 is their average: $(-8 + 4) / 2 = -2$.

Q18: (D) (d) -1 is greater than -100. -1 sits much closer to zero, making it the larger value despite having a smaller digit.

Q19: (D) (d) 9. Counting floors -3, -2, -1, 0, 1, 2, 3, 4, 5 (noting many buildings skip a floor labeled 0, but counting integers strictly gives 9 numbers from -3 to 5 inclusive).

Q20: (A) (a) -5 and 5. This pair spans a gap of 10, larger than any other option listed, since both numbers sit far from zero on opposite sides.

Q21: (A) (a) Day with -9 was coldest, 11 degrees colder than the day with 2. -9 is the smallest (most negative) value, and the gap to 2 is $9 + 2 = 11$ degrees.

Q22: (A) (a) The smaller digit is the greater value. Among negative numbers, being closer to zero (a smaller digit magnitude) always means a larger actual value.

Q23: (B) (b) 3. The integers strictly between -5 and -1 are -4, -3, -2 — three values, excluding the endpoints themselves.

Q24: (C) (c) 7. The mirror image across zero simply drops the minus sign, since -7 and 7 sit the same distance from zero on opposite sides.

Q25: (B) (b) Away from zero — its value decreased, becoming more negative. Diving deeper moves further from zero on the negative side, meaning the number itself gets smaller (more negative), even though the physical depth is increasing.

Q26: (D) (d) -9. Distance from zero (9) combined with the given negative sign pins the number down exactly to -9, with no ambiguity.

Q27: (C) (c) 14. Distances from zero are 6, 3, 0, and 5 respectively (always positive counts), and $6+3+0+5=14$.

Q28: (D) (d) The order would completely reverse. Multiplying every value by -1 flips each number to the opposite side of zero, turning the smallest into the largest and vice versa, reversing the entire order.

Q29: (A) (a) 2. Both 6 and -6 are exactly 6 units from zero, one on each side, giving exactly two integers that satisfy the condition.

Q30: (B) (b) No, it has a decimal part. Integers must be whole numbers (positive, negative, or zero); a decimal value like -3.5 falls between two integers and isn't one itself.

You've got this! Keep learning and shining! - Ruchi Math Coaching