



# Math Worksheet for 6th Grade

## Comparing absolute values

Name: \_\_\_\_\_

Due Date: \_\_\_\_\_

Teacher: \_\_\_\_\_

Parent Sign: \_\_\_\_\_

- Which number has the greater absolute value: -9 or 5?
- Order the numbers -2, 0, 3, -6 from least to greatest by absolute value.
- True or False:  $|-3| > |2|$ .
- Fill in the blank:  $|-8|$  \_\_\_\_\_  $|8|$ .
- Which is larger:  $|\frac{1}{2}|$  or  $|-1|$ ?
- Which has the smaller absolute value: -0.5 or 0.4?
- Compare  $|-10|$  and  $|-12|$  using  $>$ ,  $<$ , or  $=$ .
- Are the absolute values of -4 and 4 equal? Yes or No.
- Put these numbers in order from greatest absolute value to least: -7, 6, -1, 0.

Placing absolute values on the number line

- What numbers have absolute value 4?
- Which integers have  $|x| = 2$ ?
- Which points on the number line are at distance 3 from 0?
- List a number whose absolute value is 0, a number whose absolute value is 1, and a number whose absolute value is 2.
- Give two numbers that have absolute value 6.
- Which integers satisfy  $|x| = 5$ ?
- Which whole numbers have absolute value less than 4?
- Which integers satisfy  $|x| = 4$ ? (Give the pattern or examples.)
- If  $|x| = 0$ , what is  $x$ ?
- Which integers satisfy  $|x| = 7$ ?

Comparing absolute values

- Compare  $|-8|$  and  $|3|$ .
- A submarine is at -350 m. A ship floats at 0 m. Which is farther from 0 (sea level)?
- Which is greater:  $|-0.75|$  or  $|0.7|$ ?
- Two temperatures are -15 degC and 8 degC. Which is farther from 0 degC?
- Are  $|12|$  and  $|-12|$  equal? Yes or No.
- Which integer has the greater absolute value: -13 or 13?
- From -3, -5, 2, 0 which number has the smallest absolute value?
- Sam is at position -9 on a number line and Lucy is at 5. Who is farther from the origin?
- Without calculating exact values, which has greater absolute value: -100 or -99?
- Which is farther from zero:  $-\frac{1}{3}$  or 0?



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Testing solutions to absolute value inequalities

31. Is  $x = 3$  a solution to  $|x| < 4$ ? Yes or No.
32. Is  $x = -4$  a solution to  $|x| ? 4$ ? Yes or No.
33. Does  $x = 5$  satisfy  $|x| > 4$ ? Yes or No.
34. Is  $x = -2$  a solution to  $|x| ? 3$ ? Yes or No.
35. Which of these numbers satisfy  $|x| < 2$ : -2, -1, 0, 1, 2? (List all that do.)
36. Does  $x = 1$  satisfy  $|x - 2| < 3$ ? Yes or No.
37. Test  $x = -1$  for  $|x + 1| ? 2$ . Is it true?
38. Is  $x = 4$  a solution to  $|x - 5| < 1$ ? Yes or No.
39. Which of -6, -5, 0, 5, 6 satisfy  $|x| ? 5$ ? (List the ones that do.)
40. Is  $x = -3$  a solution to  $|x| = 3$ ? Yes or No.

Interpreting absolute value (word problems)

41. The thermometer reads -7 degC in the morning and 3 degC in the afternoon. By how many degrees did the temperature change?
42. A diver is 12 m below sea level and swims to 4 m above sea level. How far did the diver move?
43. A bank balance goes from -\$20 to \$15. By how much did the balance change?
44. An elevator goes from the 5th floor to floor -2 (basement). How many floors did it move?
45. Town A is at elevation 200 m and Town B is at -150 m (below sea level). What is the vertical distance between the towns?
46. A submarine is at -450 m. How far is it from sea level?
47. Jamie stands at -3 on a number line and Alex stands at 2. How far apart are they?
48. The temperature rose from -2 degC to 4 degC. How many degrees did it rise?
49. A hiker moves from elevation -10 m to elevation 20 m. How far did the hiker move?
50. A runner starts at point -10 on a number line and runs to point 15. How far did the runner run?