LESSON MAKER PRO

Integer Distance Quest

Use subtraction to find how far apart integers are.

GRADE 6 · 6.NS.9c

6.NS.9c "Understand subtraction of integers as adding the additive inverse, p – q = p + (– q). Show that the distance between two integers on the number line is the absolute value of their difference, and apply this principle in real-world contexts."

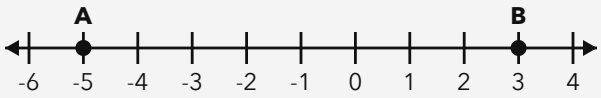
NAME _____ DATE _____

SUBTRACT AND MEASURE

To subtract an integer, add its additive inverse: p - q = p + (-q). On a number line, the distance between two integers is the absolute value of their difference. Distance is never negative.

WORKED EXAMPLE

What is the distance from A to B? Show the subtraction as adding the additive inverse.

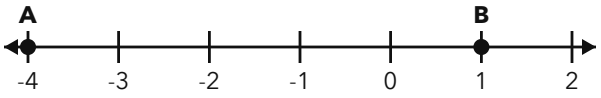


1. Read the points: A = -5 and B = 3.
2. Subtract: 3 - (-5) = 3 + 5.
3. Find the distance: |3 + 5| = |8| = 8.

Answer: 8 units

PRACTICE 6 problems

1 Find the distance between A and B. Write an absolute-value expression.



ANSWER _____

2 Find the distance between C and D. Write an absolute-value expression.



ANSWER _____

_____

3 Rewrite 6 - (-1) as addition. Then find its value.

ANSWER _____

_____

4 Rewrite -6 - 4 as addition. Then find its value.

ANSWER _____

_____

5 Find the distance between -12 and -7. Write an absolute-value expression.

ANSWER _____

_____

6 Find the distance between 12 and -3. Write an absolute-value expression.

ANSWER _____

_____

APPLY IT Show your work

1 In a video game, Mia has -16 points and Leo has 6 points. How far apart are their scores? Write an absolute-value expression.

WORK SPACE

ANSWER _____

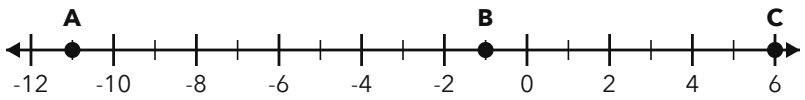
2 The temperature at a skate park was -4°C in the morning and 11°C in the afternoon. How many degrees did it rise? Write the subtraction as addition of the inverse.

WORK SPACE

ANSWER _____

CHALLENGE One step up

A game token moves from B to A, then from A to C. What total distance does it travel? Write an absolute-value expression for each move. Explain why the distance from A to C alone is not the total.



WORK SPACE AND ANSWER

ANSWER KEY

Integer Distance Quest

GRADE 6 · 6.NS.9c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Find the distance between A and B. Write an absolute-value expression.	**|1 - (-4)| = 5 units**
2	Find the distance between C and D. Write an absolute-value expression.	**|-2 - (-9)| = 7 units**
3	Rewrite 6 - (-1) as addition. Then find its value.	**6 + 1 = 7**
4	Rewrite -6 - 4 as addition. Then find its value.	**-6 + (-4) = -10**
5	Find the distance between -12 and -7. Write an absolute-value expression.	**|-7 - (-12)| = 5 units**
6	Find the distance between 12 and -3. Write an absolute-value expression.	**|12 - (-3)| = 15 units**

PART 2 · APPLY IT

1. **|6 - (-16)| = 22 points** Subtract the scores, then take the absolute value: |6 + 16| = 22.
2. **11 - (-4) = 11 + 4 = 15°C** Subtract the morning temperature from the afternoon temperature. Adding the inverse gives 11 + 4 = 15.

CHALLENGE

|-11 - (-1)| + |6 - (-11)| = 10 + 17 = 27 units. The distance from A to C is only 17 units; it leaves out the move from B to A.

Accept subtraction in either order inside an absolute-value expression. For the challenge, accept any correct explanation that accounts for both moves.