LESSON MAKER PRO

How Far Apart?

Use addition to find distances between rational numbers.

GRADE 7 · 7.NOS.A.1.c

7.NOS.A.1.c "Rewrite subtraction as addition using the additive inverse (p − q = p + (−q)). Use strategies such as number lines and applying absolute value of the difference to determine the distance between two rational numbers and solve problems in..."

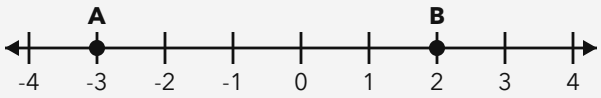
NAME _____ DATE _____

SUBTRACT TO FIND DISTANCE

Rewrite subtraction by adding the opposite: p - q = p + (-q). The distance between two numbers is the absolute value of their difference, so it is never negative.

WORKED EXAMPLE

Find the distance between A and B.



1. Subtract the positions: 2 - (-3).
2. Add the opposite: 2 + 3 = 5.
3. Take the absolute value: |5| = 5.

Answer: 5 units

PRACTICE 4 problems

1 Rewrite 6 - (-4) as addition. Find its value.

ANSWER _____

2 Rewrite -5 - 7 as addition. Find its value.

ANSWER _____

3 Find the distance between -1/2 and 5/2. Show the subtraction as addition.

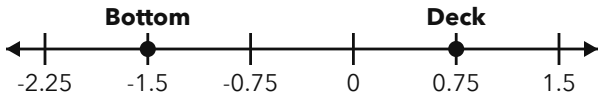
ANSWER _____

4 Find the distance between -1.5 and 0.5. Show the subtraction as addition.

ANSWER _____

APPLY IT Show your work

1 At a skate park, the bowl's bottom is -1.5 m and the deck is 0.75 m relative to ground level. What is their vertical distance?



ANSWER _____

2 A team starts a game round with -6 points and finishes with 9 points. How much did its score increase?

WORK SPACE

ANSWER _____

CHALLENGE One step up

Use subtraction as addition to find the distance between -7/4 and 1/2. Explain why the distance cannot be negative.

WORK SPACE AND ANSWER

ANSWER KEY

How Far Apart?

GRADE 7 · 7.NOS.A.1.c

PART 1 · PRACTICE

#	PROBLEM	ANSWER
1	Rewrite 6 - (-4) as addition. Find its value.	**6 + 4 = 10**
2	Rewrite -5 - 7 as addition. Find its value.	**-5 + (-7) = -12**
3	Find the distance between -1/2 and 5/2. Show the subtraction as addition.	**5/2 - (-1/2) = 5/2 + 1/2 = 3 units**
4	Find the distance between -1.5 and 0.5. Show the subtraction as addition.	**0.5 - (-1.5) = 0.5 + 1.5 = 2 units**

PART 2 · APPLY IT

1. **2.25 m** Subtract the heights by adding the opposite: 0.75 - (-1.5) = 0.75 + 1.5 = 2.25.
2. **15 points** Subtract the starting score from the final score: 9 - (-6) = 9 + 6 = 15.

CHALLENGE

-7/4 - 1/2 = -7/4 + (-2/4) = -9/4. The distance is |-9/4| = 9/4 units because distance cannot be negative.

Accept either subtraction order for a distance if the student takes the absolute value. Equivalent fractions and decimals are correct.