NAME _____ DATE _____

Module 18 Solving Radical Equations
Lesson 4 Solving Problems Using the Distance and Midpoint Formulas

guided notes

Lesson Objectives

- Recognize distance as the absolute value of a difference.
- Demonstrate the correct use of the Pythagorean Theorem.
- Use the distance formula to solve problems.
- Use the midpoint formula to solve problems.

In the Pythagorean Theorem, if c is the length of hypotenuse of the right triangle and a and b are the lengths of the legs, then $c^2 =$ _____.

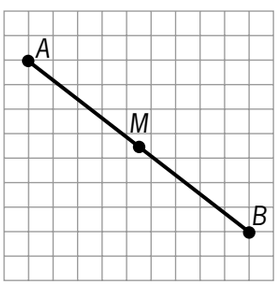
To determine the distance between two points on a number line, find the absolute value of the _____ between their coordinates.

The distance between points (x_1,y_1) and (x_2,y_2) is given by the Distance Formula $d =$ _____.

1 Find the distance between point R with coordinates (4, –6) and point S with coordinates (–4, –10).

_____

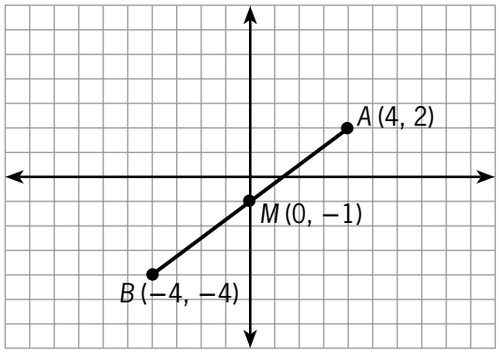
The midpoint of $\overline{AB}$ is the point M such that _____.



The midpoint of a segment can be found using the Midpoint Formula.

The midpoint between points $A(x_1,y_1)$ and $B(x_2,y_2)$ is the point

_____.



2 What is the distance from Mike's house, $M(0, -1)$, to Angelo's house, $A(4, 2)$?

_____

3 What is the distance from Mike's house, $M(0, -1)$, to Brenda's house, $B(-4, -4)$?

_____