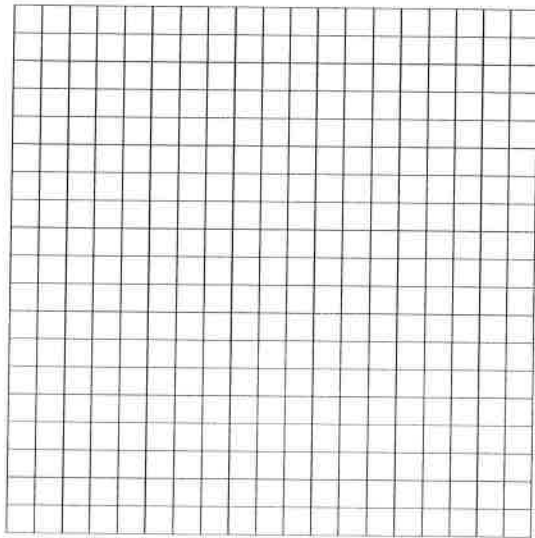


Find the Shortest Route

A ranger cabin is to be built in a flat wooded area near the straight road that connects the two campgrounds. A new side road will connect the cabin to the campground road. On the park map, the campgrounds have coordinates A (2.0, 8.5) and B (10.0, 4.5), while the site for the cabin is at R (6.0, 1.5). Each unit represents 500m. Find the shortest route from the new ranger cabin to the side road that connects the campgrounds.

- Plot the points for the campgrounds and the ranger cabin onto the grid.
- Devise a strategy for how you would determine the shortest route from the ranger cabin to the side road. List the steps you will use to solve the problem.
- Using algebraic techniques, determine at what point the new road from the ranger cabin will connect to the road between the campgrounds.
- Determine the length of this new road.

a)



- b) Steps to solve for the shortest route (hint: where is the point on the side road that we want to connect the new road to?)

Solve c) and d) on the back of this page.