

July 2008

**PENN STATE ELECTRO-OPTICS CENTER  
PROBLEM STATEMENT**

**Wendy:** Wendy: I just got a call from the state police asking for our help. Two teenage boys – cross country athletes at their high school- have been missing for two days. They were last seen on their way to “Breakneck Ridge” in McConnell’s Mill State Park to do some rock climbing. Their car was found in the parking lot at the park entrance – it was locked and their cell phones and rain gear were still inside.

**Jonathan:** Do we know what they were wearing and if they were carrying anything that might help find them?

**Wendy:** Their parents said the boys had a GPS unit and aside from climbing gear they were carrying their lunch and a few snacks. They were dressed in jeans and tee shirts.

**Rich:** Did the state police say how far the boys may have walked?

**Wendy:** It's hard to say. Every hour that passes allows the hikers to cover a larger area, which expands the necessary search area. The park rangers say they could be as much as thirty miles from the parking lot.

**Jonathan:** OK- lets make some assumptions and see if we can come up with the best technology to find them. We'd better hurry because it'll be night again soon and the temperature will be in the 40s.