

4.4 Applied Maximum and Minimum Problems (continued)

If 2700 cm^2 of material is available to make a box with a square base and open top, find the largest possible volume of the box.

A cable television company is laying cable in an area with underground utilities. Two subdivisions are located on opposite sides of Willow Creek, which is 100 m wide. The company has to connect points P and Q with cable, where Q is 1200 m east of P. It costs \$40/m to lay cable underground and \$80/m to lay cable underwater. What is the least expensive way to lay the cable?