Name: _____

Quiz 18

MATH 200
October 31, 2023

1. An island is 2 miles from the nearest point A on a straight shoreline. Point A is 6 miles from a power plant. A utility company plans to lay electrical cable underwater from the island to the shore, and then along the shore to the power station. (As shown by the dashed line, below.) It costs \$2,000 per mile to lay the cable underwater, and \$1,000 per mile to run it along the shore. At what point X should the underwater cable meet the shore to minimize the cost of the project?