Engineers have proposed a single-span suspension bridge across 8-km wide strait. The plan includes suspension towers 3**7**0 meters high at each end.

Use the Trapezoidal approximation (n=4) to estimate the total length of the cable (in meters) that is given by

L=2\int_0^S\sqrt{1+\frac{4H^2}{S^4}x^2}\:dx

Round intermediate and final answers to the nearest ten-thousandths.

