Demand Suppose that the demand function for a product is \( p = \frac{500}{\ln(q + 1)} \), where \( p \) is the price per unit and \( q \) is the number of units demanded. What price will give a demand for 6400 units? \(^1\)

Let \( q = 6400 \) units and solve for the price, \( p \).

\[
p = \frac{500}{\ln(q + 1)}
\]

\[
p = \frac{500}{\ln(6400 + 1)}
\]

\[
= \frac{500}{\ln(6401)}
\]

\[
\approx \frac{500}{8.7642}
\]

\[
\approx 57.0503
\]

The price that will give a demand for 6400 units is $57.05 per unit.

\(^1\)Harshbarger/Yocco, *College Algebra In Context*, 5e, p. 341, #44.