Problem 15.1 - 3c

need \( x > 0 \) \( g > 0 \) or \( x < 0 \) \( g < 0 \)

i.e. \( x \) and \( g \) must have the same sign
and \( x y + o \). \( z \) can be anything

points here. \( z \theta \)

no points libre.

\( y \) points here.

not points here.

\( \theta \) points here.
Problem 15.2 - 28

\[ t = \frac{5}{4} \sqrt{16-x^2} \]

Point \((2, 3, \frac{5\sqrt{3}}{2})\)

Plane \(y = 3\)

\[ \rho = \frac{5}{4} \frac{x^2 - y^2}{\sqrt{16-x^2}} \]

\[ \rho \cdot x = 2 \]

\[ \frac{-10}{4\sqrt{16-4}} = -\frac{5}{2} \]

\[ \frac{1}{\sqrt{12}} \]

\[ \frac{5}{4\sqrt{3}} \]
Problem 15.3 - 16

clock limit along x axis i.e. \( y = 0 \)

\[
\lim_{x \to 0} \frac{0}{x^2} = 0
\]

clock limit along line \( y = x \)

\[
\lim_{x \to 0} \frac{x^2 + x^3}{2x^2} = \frac{1}{2}
\]

\( 0 + \frac{1}{2} \) limit does not exist.