

Section 12.1: Additional Problems

1. A triangle is formed by these vertices: $A(5, 1, 5)$, $B(3, 2, 3)$, and $C(1, 4, 4)$. Determine if the triangle is an isosceles triangle, a right triangle, both or neither.
2. Sketch the graph of the **elliptic cylinder** $\frac{y^2}{4} + \frac{z^2}{25} = 1$ in \mathbb{R}^3 .
3. Find an equation of a sphere that has a diameter with the endpoints of $(3, 2, 8)$ and $(7, 12, 22)$.
4. Find an equation of a plane that goes through the points $(10, 0, 0)$, $(0, 5, 0)$ and $(0, 0, 20)$