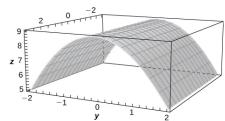
4 09-04-2025

Note: We do NOT cover the foci of paraboloids or ellipsoids.

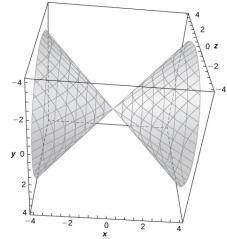
4.1 Section 2.6, Exercises 309-312

For the following exercises, the graph of a quadric surface is given.

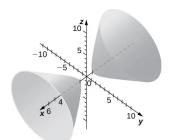
- a. Specify the name of the quadric surface.
- b. Determine the axis of the quadric surface.



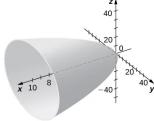
309.



310.



311.



312.

4.2 Section 2.6, Example 2.59 Identifying Equations of Quadric Surfaces

Identify the surfaces represented by the given equations.

(a)
$$16x^2 + 9y^2 + 16z^2 = 144$$

(b)
$$9x^2 - 18x + 4y^2 + 16y - 36z + 25 = 0$$

4.3 Section 2.6, Checkpoint 2.54

Identify the surface represented by the equation $9x^2 + y^2 - z^2 + 2z - 10 = 0$.

4.4 Section 2.6, Exercise 350

Find the equation of the quadric surface with points P(x, y, z) that are equidistant from point Q(0, 2, 0) and plane of equation y = -2. Identify the surface.