

12.6, number 10: Which picture from (a)–(l) corresponds to

$$z = -4x^2 - y^2?$$

When $x = 0$, the equation describes a parabola in the yz -plane. This parabola has z always negative.

When $y = 0$, the equation describes a parabola in the xz -plane. This parabola has z always negative.

When $z = 0$, the equation describes one point.

The graph is a paraboloid. The answer is either e or f. Observe that the graph f has the z -coordinate always negative; just like the equation says it should.

The answer is .

Answer: