1. Graph the following graphs. Draw slices in all the coordinate directions.

   (a) $z = x - y$
   (b) $z = -2x - 3y + 4$

**Lecture Problems**

2. Draw the following graphs in $\mathbb{R}^3$. Draw slices in all coordinate directions (especially draw level curves).

   (a) $x^2 + 2y^2 + 3z^2 = 4$
   (b) $x^2 + 2y^2 - 3z^2 = 4$
   (c) $x^2 - 2y^2 - 3z^2 = 4$
   (d) $-x^2 - 2y^2 - 3z^2 = 4$
   (e) $x - 2y^2 - 3z^2 = 4$
   (f) $x + 2y^2 - 3z^2 = 4$
   (g) $x = y^2$
   (h) $z = y^2$
   (i) $z = x + y^2$