

Math 233 Warm Up Problems

September 10, 2009

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) $z = x + y^2$