

1. Prob. 14, sec. 8.1, **Lay**.
2. Choose a set S of four distinct points in \mathbf{R}^3 such that $\text{aff } S$ is the plane $x_1 + 3x_2 - 2x_3 = 6$. Justify your work.
3. Prob. 11, 16, 18, sec. 8.2 **Lay**.
4. Prob. 7, 17, sec. 8.3, **Lay**.
5. Prob. 16, sec. 8.4, **Lay**.
6. Prob. 10, 12, sec 8.5, **Lay**.
7. Find the convex hull of the set of points (x, y) in \mathbf{R}^2 which satisfy the given conditions.
 - (a) $y = x^2$ and $x \geq 0$.
 - (b) $y = 1/x$ and $x \geq 1/2$.
 - (c) $y = \sin x$.
8. Let $P = \text{conv } S$ where $S = \{(1, 1), (2, 2), (2, 3), (4, 4), (5, 2)\}$ Write P as a set of the form $\{\mathbf{x} : A\mathbf{x} \leq \mathbf{b}\}$. Hint: First find the supporting hyperplanes which are, in this case, lines.