Answers

1. \((a_n, b_n) = 5^n(1, 1) + (-2)^n(-4, 3)\).

2. The orthogonal projection is \((1, 2, 1, 2, -1)\) and the minimum distance is \(\sqrt{2}\).

3. The minimum and maximum values are \(-12\) and \(10\), respectively.

4. \(U'\) is the plane defined by \(6x_1 - 5x_2 + 2x_3 = 0\) and \(U''\) is the line through the origin spanned by the vector \((1, 1, -1)\).