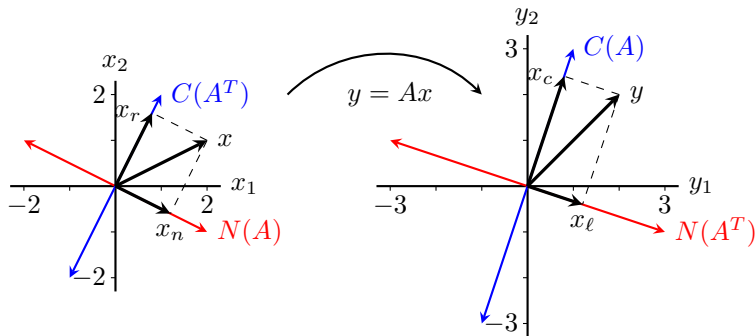


Geometric Significance of the Four Subspaces

Geometrically we can look at A as a mapping from \mathbb{R}^n to \mathbb{R}^m according to $y = Ax$. In the case of our preceding example, this mapping has a lot of geometric structure:



For x and y we have unique representations $x = x_r + x_n$, $y = y_c + y_{el}$.
(Note that our subspaces are orthogonal!)