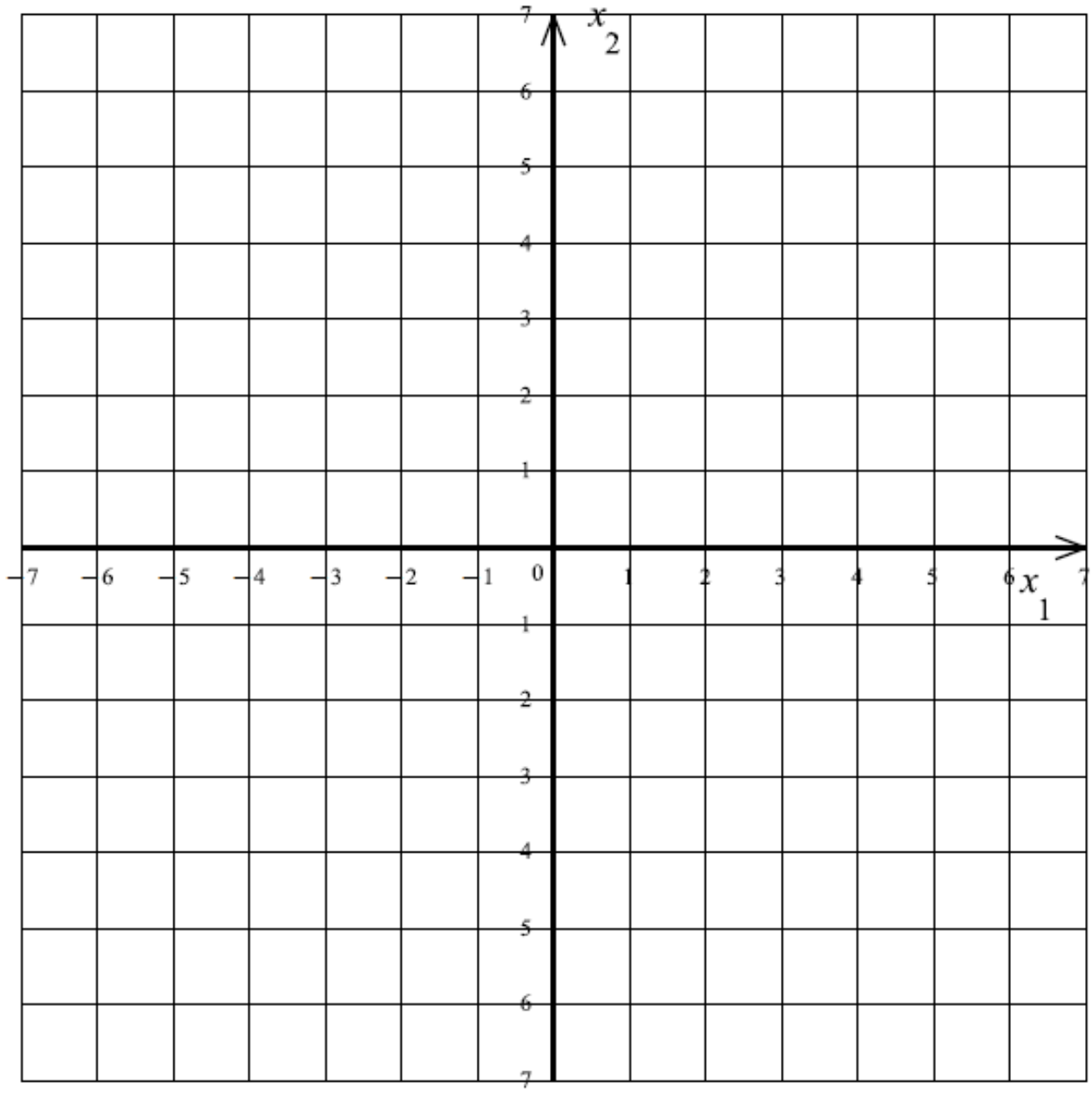

Draw in arrows for the new basis vectors $b_1 = \langle 3, 1\rangle$, $b_2 = \langle 1, 2\rangle$, then extend them in each direction marking off with small bullet circles each multiple tip to tail of these along the new axes to connect with a ruler through these bullet circles to make the new coordinate axes (label them y_1, y_2 at their positive arrowhead ends). Then draw in an arrow for the vector $\langle x_1, x_2\rangle = \langle 4, -2\rangle$ and then draw in lines parallel to each axis from its tip to those axes to form the projection parallelogram, and read off the new coordinates $\langle y_1, y_2\rangle$ *so that* $\langle x_1, x_2\rangle = y_1\, b_1 + y_2\, b_2$. Next reverse the procedure for $\langle y_1, y_2\rangle = \langle -2, 3\rangle$ locating the point $\langle x_1, x_2\rangle = y_1\, b_1 + y_1\, b_1$ drawing parallels from the new axes through the tickmarks y_1 and y_2 and draw in its position vector, reading off its old coordinates. Check by matrix multiplication $x = B\, y, y = B^{-1}\, x$ that your graphical readouts are correct.