$\vec{m} = (-1; 2; -3)$
$\vec{n} = (2; 0; -1)$
$\vec{p} = (-1; 3; 0)$

$2(\vec{m} - \vec{x}) + \vec{n} = \vec{p} - 3\vec{m} + (\vec{n} - \vec{x})$
$(-2; 4; -6) - (2x_1; 2x_2; 2x_3) + (2; 0; -1) = (-1; 3; 0) + (3; -6; 9) + (2; 0; -1) - (x_1; x_2; x_3)$
$(0; 4; -7) - (2x_1; 2x_2; 2x_3) = (4; -3; 8) - (x_1; x_2; x_3)$
$(2x_1; 2x_2; 2x_3) - (x_1; x_2; x_3) = (0; 4; -7) - (4; -3; 8)$
$(x_1; x_2; x_3) = (-4; 7; -15)$
$\vec{x} = (-4; 7; -15)$

$$
\begin{aligned}
2(\vec{m} - \vec{x}) + \vec{n} &= \vec{p} - 3\vec{m} + (\vec{n} - \vec{x}) \\
(-2; 4; -6) - (2x_1; 2x_2; 2x_3) + (2; 0; -1) &= (-1; 3; 0) + (3; -6; 9) + (2; 0; -1) - (x_1; x_2; x_3) \\
(0; 4; -7) - (2x_1; 2x_2; 2x_3) &= (4; -3; 8) - (x_1; x_2; x_3) \\
(2x_1; 2x_2; 2x_3) - (x_1; x_2; x_3) &= (0; 4; -7) - (4; -3; 8) \\
(x_1; x_2; x_3) &= (-4; 7; -15) \\
\vec{x} &= (-4; 7; -15)
\end{aligned}
$$

$$
\begin{aligned}
2(\vec{m} - \vec{x}) + \vec{n} &= \vec{p} - 3\vec{m} + (\vec{n} - \vec{x}) \\
2\vec{m} - 2\vec{x} + \vec{n} &= \vec{p} - 3\vec{m} + \vec{n} - \vec{x} \\
-2\vec{x} &= \vec{p} - 5\vec{m} - \vec{x} \\
\vec{x} &= 5\vec{m} - \vec{p} \\
\vec{x} &= (-5; 10; -15) - (-1; 3; 0) \\
\vec{x} &= (-4; 7; -15)
\end{aligned}
$$