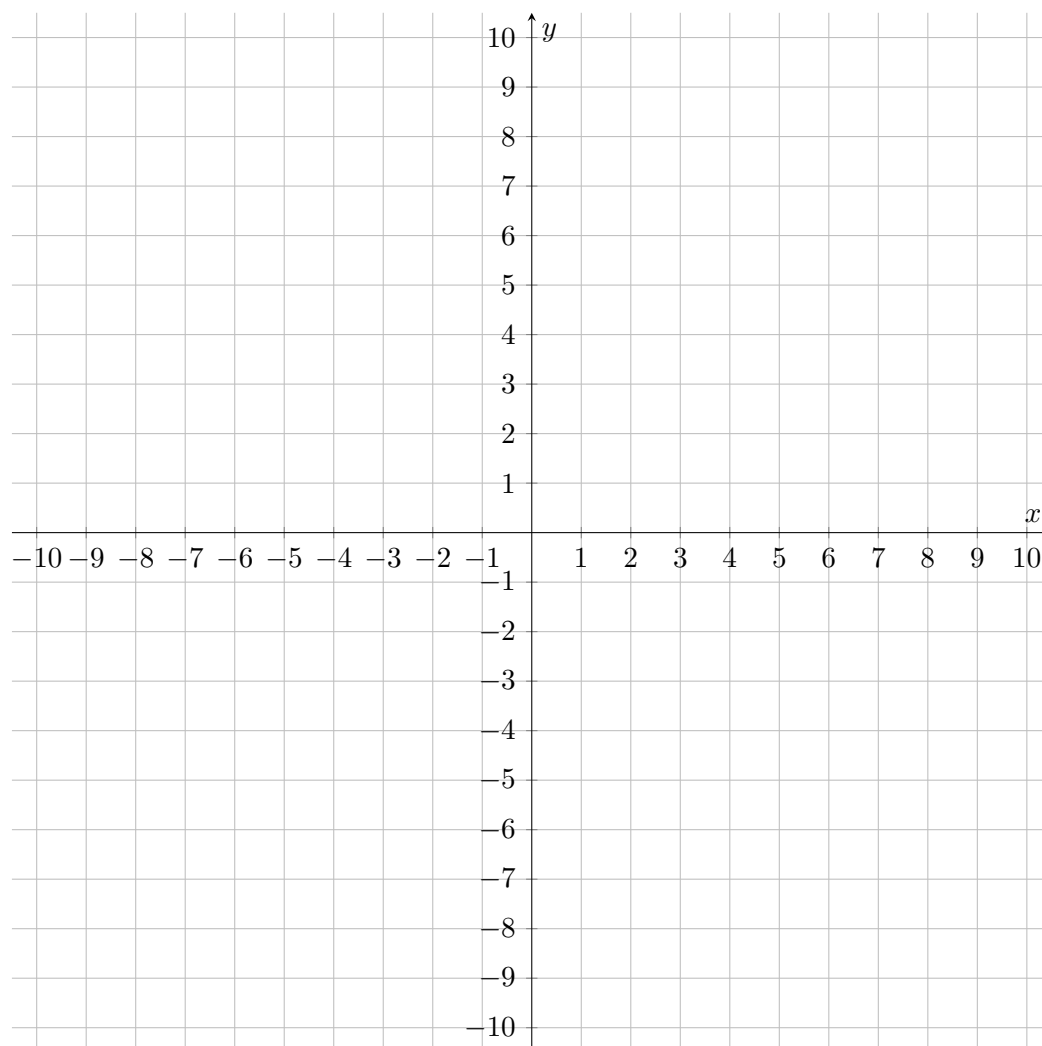


Name: _____

1. In general, the vector $\mathbf{v} = a\mathbf{i} + b\mathbf{j}$ is perpendicular to the line $ax + by = c$.

(a) Use the above fact to find an equation of the line through the point $(-1, -9)$ perpendicular to $\mathbf{v} = -2\mathbf{i} + \mathbf{j}$.

(b) Plot this line and this vector \mathbf{v} .



2. Find the volume of the parallelepiped with one of its eight vertices at $A(0, 0, 0)$ and three adjacent vertices at $B(2, 1, 0)$, $C(0, -3, 1)$, and $D(3, -4, 6)$.