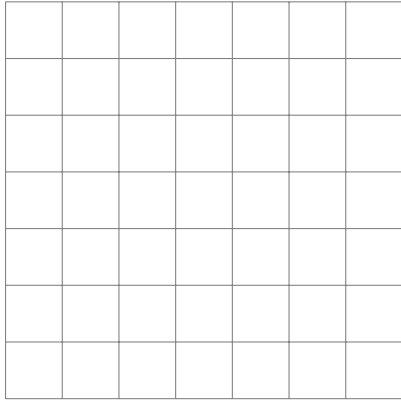


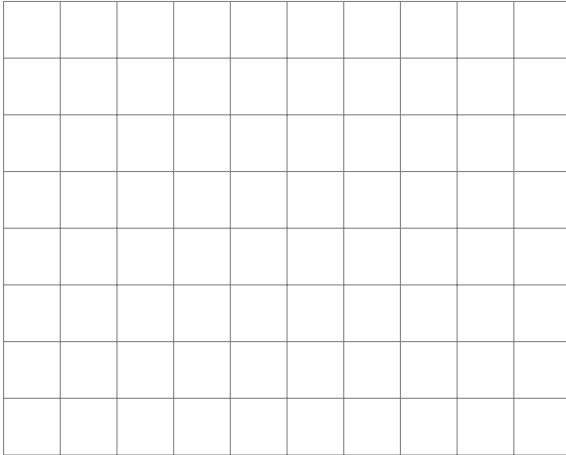
1. Find a vector \mathbf{v} such that the line $5x - 8y = 0$ lies along \mathbf{v} .

2. Find the angle between $\begin{pmatrix} 2 \\ 2 \end{pmatrix}$ and $\begin{pmatrix} 0 \\ 3 \end{pmatrix}$ using the formula learned in class. Sketch!



3. Find all x such that the vectors $\begin{pmatrix} x \\ 1 \end{pmatrix}$ and $\begin{pmatrix} 9 \\ x \end{pmatrix}$ are linearly dependent.

4. Find a formula for the projection onto the line in the direction of $\begin{pmatrix} -3 \\ 1 \end{pmatrix}$. Sketch an example.



5. You are given that the projection onto the line in the direction of $\begin{pmatrix} 4 \\ -1 \end{pmatrix}$ is $\begin{pmatrix} (16x - 4y)/17 \\ (-4x + y)/17 \end{pmatrix}$. Find the reflection about this line. Simplify the algebra!