1. Find a vector in $\mathbb{R}^2$ which is orthogonal to $(3, -4)$

Solution. One vector which has a zero dot product with $(3, -4)$ is $\boxed{(4, 3)}$.

2. Find the point on the line $4x + 3y = 7$ which is closest to the origin.

Solution. The vector from the origin to the nearest point on the given line is orthogonal to the line, and is therefore parallel to $(4, 3)$. The intersection point between $4x + 3y = 7$ and $y = \frac{3}{4}x$ is $\boxed{(28/25, 21/25)}$.