

Answer on Question #83111 – Math – Analytic Geometry

Question

If a vector X is represented as $[x\sin\theta i + y\sin\theta j]$ then another vector Y which is normal to X can be represented as

Solution

Normal vector: $Y = [i, kj]$.

$$X \cdot Y = 0 \rightarrow x\sin\theta + k y \sin\theta = 0 \rightarrow k = -\frac{x}{y}.$$

$$Y = \left[1, -\frac{x}{y}\right].$$

Answer: $Y = \left[1, -\frac{x}{y}\right].$