

# multivariable calculus

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## 1 Dot Product

$x + 2y + 3z = 0$  equation of a plane

Let  $\vec{OP} = (x, y, z)$ ,  $\vec{A} = (1, 2, 3)$ , then  $\vec{OP} \cdot \vec{A} = 0 \Rightarrow P$  on a plane going through the origin point( $O$ ). **Remember to use vectors in multivariable calculus!**

## 2 Deteminants