Example 15 The area of the parallelogram whose adjacent sides are $\hat{i} + \hat{k}$ and $2\hat{i} + \hat{j} + \hat{k}$ is

(A)
$$\sqrt{2}$$
 (B) $\sqrt{3}$ (C) 3 (D) 4
Solution (B) is the correct answer. Area of the parallelogram whose adjacent sides are \vec{a} and \vec{b} is $|\vec{a} \times \hat{b}|$.