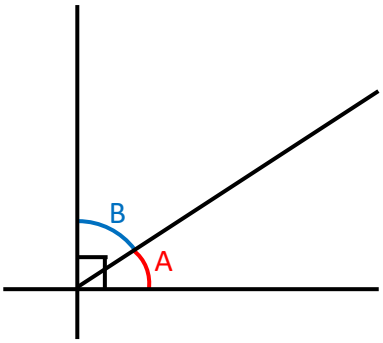
# TRIGONOMETRY EXAMPLE 3

Angles A and B are complementary and $\sin 2A = \frac{1}{4}$ . What is the value of $\sin 2B$ ?

A. $\frac{1}{2}$ B. $\frac{\sqrt{3}}{2}$ C. $\frac{1}{4}$ D. $\frac{1}{\sqrt{3}}$

## SOLUTION

Angles A and B are complementary.




$$\therefore A + B = 90^0$$
$$\therefore 2A + 2B = 180^0$$
$$\therefore \sin 2A = \sin(180^0 - 2B)$$
$$= \sin 2B$$
$$= \frac{1}{4}$$

So, the correct answer is C.