

13	8	The angle θ satisfies $\sin \theta = \frac{5}{13}$ and $\frac{\pi}{2} < \theta < \pi$. What is the value of $\sin 2\theta$?	1
		(A) $\frac{10}{13}$ (B) $-\frac{10}{13}$ (C) $\frac{120}{169}$ (D) $-\frac{120}{169}$	

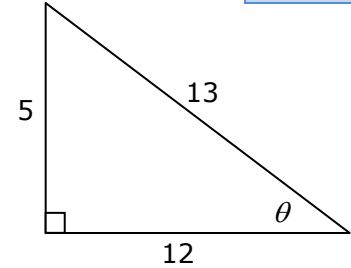
D

If acute angled Δ , $\sin \theta = \frac{5}{13}$, then $\cos \theta = \frac{12}{13}$.

But $\frac{\pi}{2} < \theta < \pi$, then $\sin \theta = \frac{5}{13}$, then $\cos \theta = -\frac{12}{13}$.

$$\begin{aligned} \text{As } \sin 2\theta &= 2 \sin \theta \cos \theta = 2 \times \frac{5}{13} \times -\frac{12}{13} \\ &= -\frac{120}{169} \end{aligned}$$

Consider triangle:



State Mean:
0.44

* These solutions have been provided by [projectmaths](http://projectmaths.com.au) and are not supplied or endorsed by the Board of Studies