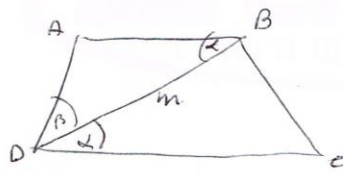


2.82

6

(C)



$$\triangle ADB: \frac{AB}{\sin \beta} = \frac{m}{\sin(\alpha + \beta)} \rightarrow AB = \frac{m \sin \beta}{\sin(\alpha + \beta)}$$

$$\triangle BDC: \frac{m}{\sin(\alpha + \beta)} = \frac{DC}{\sin(180 - \alpha - \beta)} \rightarrow DC = \frac{m \sin(2\alpha + \beta)}{\sin(\alpha + \beta)}$$

$$\textcircled{2} \quad S_{ABCD} = S_{ABD} + S_{BDC} = \frac{m^2 \sin \alpha \sin \beta}{2 \sin(\alpha + \beta)} + \frac{m^2 \sin \alpha \sin(2\alpha + \beta)}{2 \sin(\alpha + \beta)}$$

$$= \frac{m^2 \sin \alpha}{2 \sin(\alpha + \beta)} [\sin \beta + \sin(2\alpha + \beta)] = \frac{m^2 \sin \alpha}{2 \sin(\alpha + \beta)} [2 \sin(\alpha + \beta) \cos \alpha]$$

$$= m^2 \sin \alpha \cos \alpha = \frac{1}{2} m^2 \sin(2\alpha)$$