





$$W = R \int_{\pi/2}^{3\pi/2} F_g \cos \theta d\theta$$

$$W = Rmg \sin \theta \Big|_{\pi/2}^{3\pi/2} = Rmg \cancel{\sin 3/2\pi} - Rmg \cancel{\sin \pi/2}$$

$$W = -Rmg - Rmg = -2Rmg = -12.5 J$$

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