

28 A beam of light with power P has an area of cross-section A .

The amplitude of the light waves in the beam is X .

The beam of light is then changed to one with the same frequency but with an increased amplitude of $4X$ and an area of cross-section reduced to $\frac{A}{3}$.

What is the power of the new beam?

A $1.3P$

B $5.3P$

C $12P$

D $48P$