

- 30** In 2010, the Japanese launched the world's first interplanetary solar sail spacecraft, called IKAROS. This works because photons reflected from the sail of area A exerts a forward force on the sail.

A beam of light of intensity I and frequency f is reflected at right angles to a solar sail.

What is the force exerted on the sail?

A $\frac{IA}{hf}$

B $\frac{2hf}{c}$

C $\frac{I}{c}$

D $\frac{2IA}{c}$

End of paper