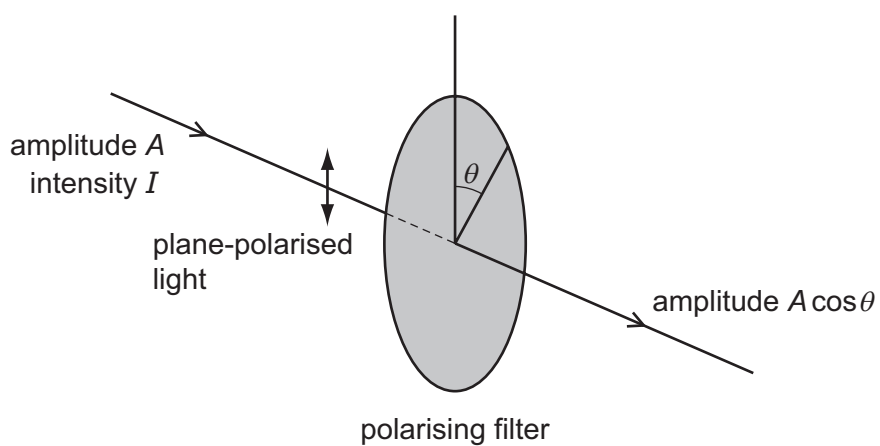**30** When plane-polarised light of amplitude A is passed through a polarising filter as shown, the amplitude of the light emerging is $A\cos\theta$.

amplitude A
intensity I

plane-polarised
light

θ

amplitude $A\cos\theta$

polarising filter

The intensity of the initial beam is I.

What is the intensity of the emerging light when θ is 60.0°?

A 0.250 I **B** 0.500 I **C** 0.750 I **D** 0.866 I

Space for working