

Solutions

Each answer shows the steps, then the **result**.

2.1

- light reflecting from the top and bottom surfaces of the film interferes; the thickness sets which colours interfere constructively

2.2

- it changes by half a wavelength (a phase change of π)

2.3

- oil films on water, or anti-reflection coatings on lenses (any one)

3.1 B

3.2 C

3.3

(a)

- at each thickness a different wavelength interferes constructively, so a different colour is seen

(b)

- thin-film interference