## **SECTION A**

## Answer ALL questions.

For questions 1–10, in Section A, select one answer from A to D and put a cross in the box  $\boxtimes$ . If you change your mind, put a line through the box  $\boxtimes$  and then mark your new answer with a cross  $\boxtimes$ .

1 The formula for a diffraction grating in the list of equations is  $n\lambda = d \sin \theta$ .

Which of the following quantities does not have units?

$$\mathbf{X}$$
 A n

$$\mathbf{B} \quad \mathbf{B} \quad \lambda$$

$$\square$$
 C d

$$\boxtimes$$
 **D**  $\theta$