Model Answers: Hard

1

The correct answer is **D** because:

- The relationship between the voltage and the number of coils is given by the following formula:

$$\frac{V_P}{V_S} = \frac{N_P}{N_S}$$

- The number of primary coils is 80 and the number of secondary coils is 400. The primary voltage is 48 V. This gives us the following equation:

$$\frac{48}{V_S} = \frac{80}{400}$$

- Rearranging this equation gives us:

$$V_S = 48 \times \frac{400}{80} = 240$$

When doing calculations always write the formula out in full. Substitute the numbers in and write out each stage of rearranging the equation. This makes it much less likely that you'll make mistakes.

2

The correct answer is **B** because:

- Flemming's left hand rule predicts which direction charged particles will be deflected in when they pass through a magnetic field.
- The field, first finger, is directed out of the page, towards you.
- The current, second finger, is directed in the direction of the alpha particle beam, since they are

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Missing a Subject

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