

Travelling through the Earth - Answers

A1a)

Radius of the core (including the outer and inner core).

$$\text{Radius} = 6370\text{km} \times \cos(52^\circ)$$

$$\text{Radius} = 3920\text{km} \text{ (3s.f.)}$$

A1b)

An overestimate. The actual value is roughly 3470km. Using a straight line for the ray path gave an upper limit for the possible value because the curved path can travel further into the Earth and still come out at the same point on the surface.

A2)

11.2 km/s to 3s.f.

Extension 1:

