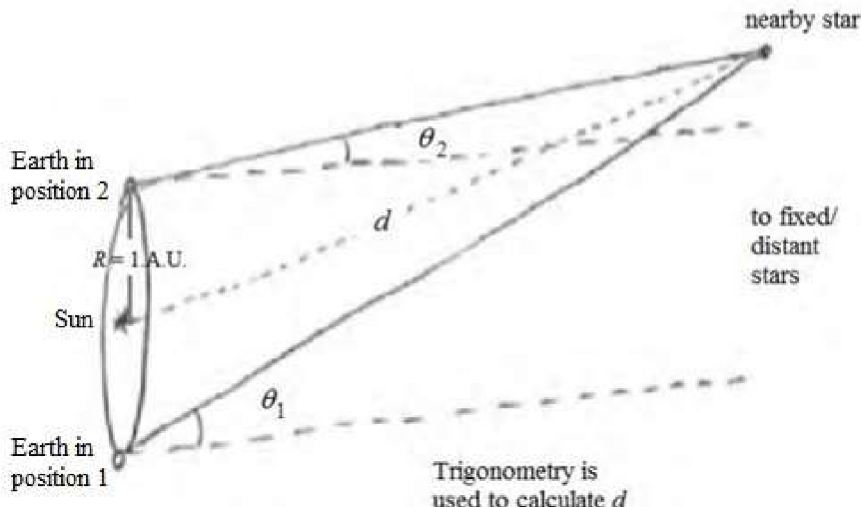


Question Number	Answer	Mark
18(a)(i)	<p>The star is viewed from two positions at 6 month intervals Or the star is viewed from opposite ends of the diameter of the Earth's orbit about the Sun (1)</p> <p>The change in angular position of the star against backdrop of distant/fixed stars is measured [Accept “parallax angle” or “angular displacement” for “change in angular position of star”] (1)</p> <p>Trigonometry is used to calculate the distance to the star [Do not accept Pythagoras] (1)</p> <p>The diameter/radius of the Earth’s orbit about the Sun must be known (1)</p> <p>Full marks may be obtained from a suitably annotated diagram</p>  <p>[Accept the symmetrical diagram seen in many text books]</p>	4
18(a)(ii)	<p>Stars were too far away for changes in angular position to be measured Or the parallax angles were too small to be measured (1)</p> <p>[Allow stars are (very) far away and parallax angles are (very) small]</p>	1
18(b)(i)	<p>A (stellar) object of known luminosity (1)</p>	1
18(b)(ii)	<p>Identify/locate standard candle (in nearby galaxy) (1)</p> <p>Measure intensity of radiation from the standard candle [Do not accept “calculate” for “measure”] (1)</p> <p>Use inverse square law to calculate distance [If response refers to $I = \frac{L}{4\pi d^2}$ it must be clear that L is luminosity and I is intensity] (1)</p>	3
Total for question 18		9