

Homework Section 3.2 - Due 22nd Feb

Show your working. Sketching diagrams may simplify problems.

1. #8 on page 113.
2. #32 on page 114.
3. #34 on page 114.
4. #42 on page 115.
5. The distance between the earth and the sun is approximately 150 million kilometres. Assuming that the orbit of the earth is circular and 1 year is 365.25 days, calculate the distance that earth traces in
 - (a) 1 week.
 - (b) 30 days.Give your answers to the nearest thousand kilometres.
6. #52 on page 116.
7. Charlie's windscreen wiper is broken on his car and can only rotate 35 degrees. He decides to post on his facebook status how useless the wiper is by stating the area that it can wipe. Given that his wiper is 45 cm long, calculate the area.
8. Suppose that three concentric circles (circles with the same centre) have radius 3cm, 4cm and 5cm. If the outer ring and the inner circle is shaded, calculate the total area of the shaded regions. Somewhat poor sketch:



9. #64 on page 117.
10. By observing stellar parallax, an astronomer knows that star A and star B are both 40 light years away from Earth, E . If the angle $AEB = 1.5^\circ$, approximate the distance between A and B .