

### **The Ellipse Extension Question**

Consider any point  $P$  on the ellipse with equation  $9x^2 + 25y^2 = 225$  and  $A$  and  $B$  are the points  $(-4,0)$  and  $(4,0)$  respectively. Prove that

$$PA + PB = 10.$$

Prove also that the normal at  $P$  bisects the angle  $APB$ .