Abbotsleigh 1999 MX2 Trial Q4(a)

Q4 (a)(i)

Show that tangent to the ellipse $\frac{x^2}{12} + \frac{y^2}{4} = 1$ at the point $P(3, 1)$ has the equation $x + y = 4$

Q4 (a)(ii)

If this tangent cuts the directrix at the point T and S is the corresponding focus, show that SP and ST are at right angles to each other.