

- 9** The equation of a curve is $xy = 12$ and the equation of a line l is $2x + y = k$, where k is a constant.
- (i) In the case where $k = 11$, find the coordinates of the points of intersection of l and the curve. [3]
- (ii) Find the set of values of k for which l does not intersect the curve. [4]
- (iii) In the case where $k = 10$, one of the points of intersection is $P(2, 6)$. Find the angle, in degrees correct to 1 decimal place, between l and the tangent to the curve at P . [4]