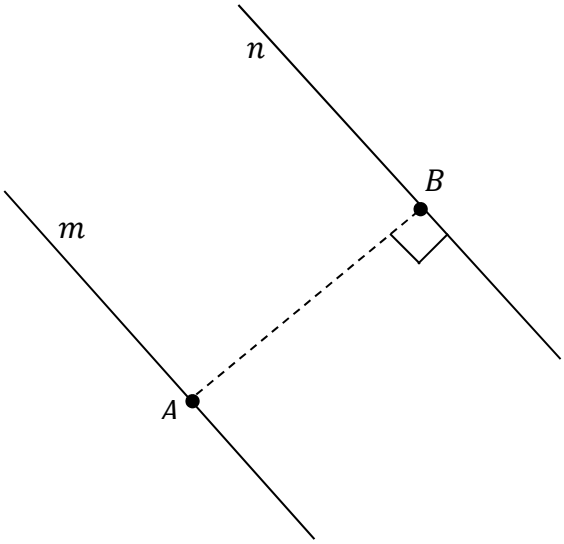
Question 5 **(25 marks)**

The line m: $2x + 3y + 1 = 0$ is parallel to the line n: $2x + 3y - 51 = 0$.

(a) Verify that $A(-2, 1)$ is on m.

(b) Find the coordinates of B, the point on the line n closest to A, as shown below.



(c) Two touching circles, s and t, are shown in the diagram. m is a tangent to s at A and n is a tangent to t at B. The ratio of the radius of s to the radius of t is $1 : 3$.
Find the equation of s.