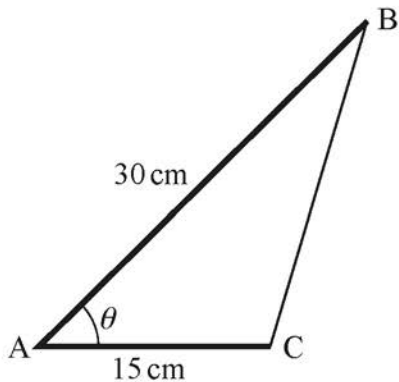**10** A triangle ABC is made from two thin rods hinged together at A and a piece of elastic which joins B and C. AB is a 30 cm rod and AC is a 15 cm rod. The angle BAC is θ radians as shown in the diagram.

The angle θ increases at a rate of 0.1 radians per second.

Determine the rate of change of the length BC when $\theta = \frac{1}{3}\pi$. **[8]**