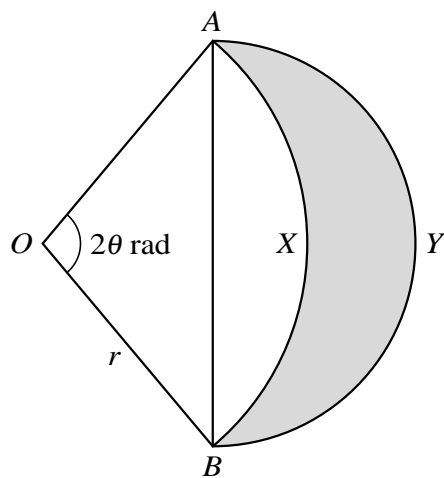


2



In the diagram, AYB is a semicircle with AB as diameter and $OAXB$ is a sector of a circle with centre O and radius r . Angle $AOB = 2\theta$ radians. Find an expression, in terms of r and θ , for the area of the shaded region. [4]