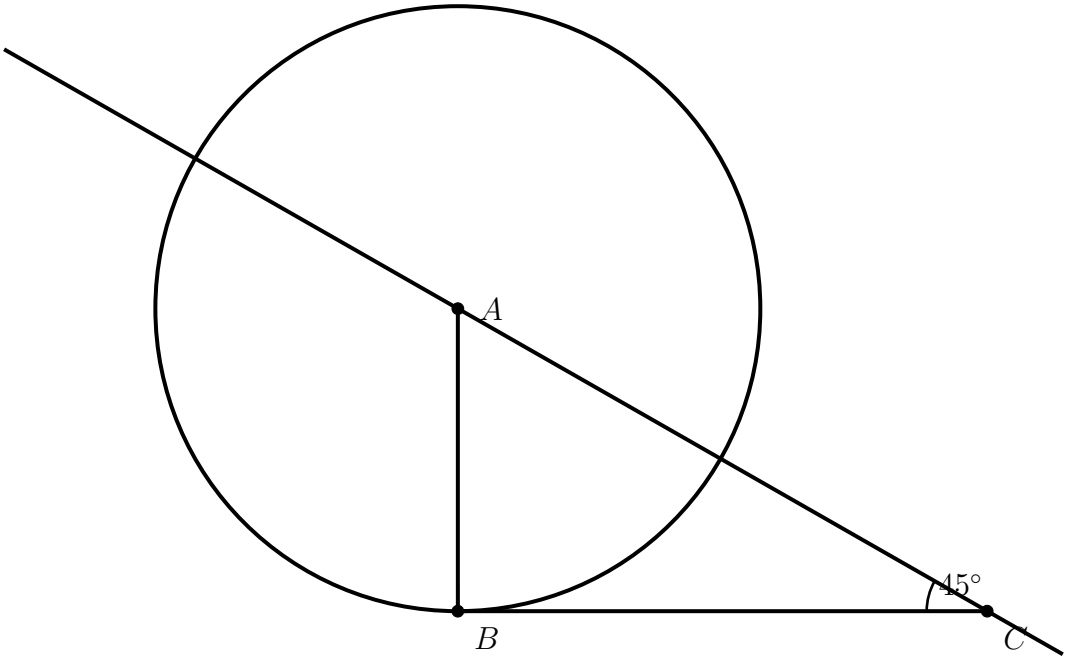
Geometry Sheet 1

Calculator

Questions

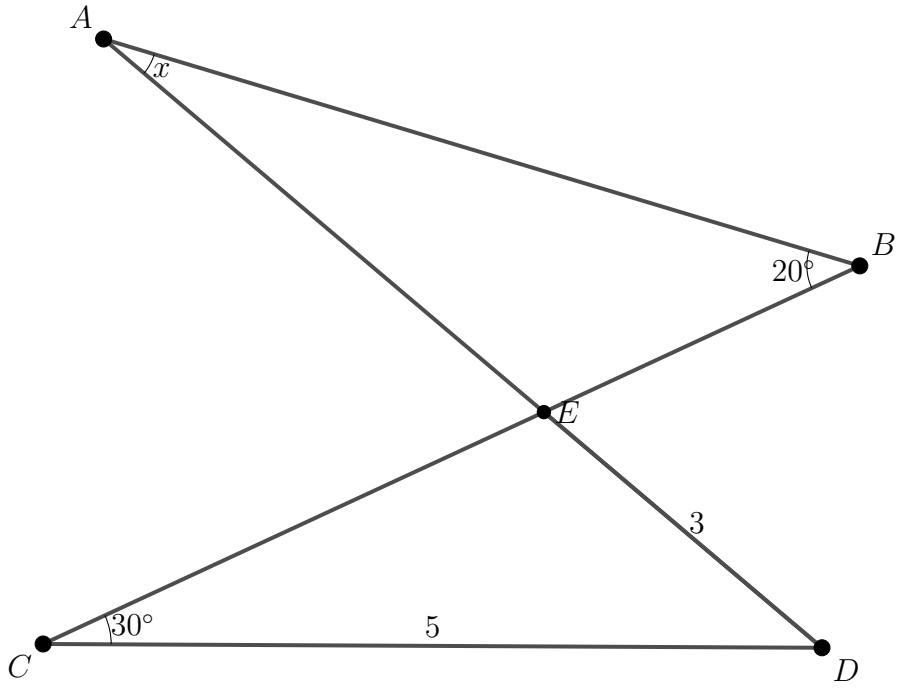
Q1. We are given a circle centred around A with a tangent line BC,



(a) Calculate the angle BAC

(b) The area of the circle is 2π calculate the are of the BEC region

Q2. We are given two circles ABE and CDE,



(a) Calculate the angle of x

Q3. OABC is a parallelogram where $\vec{OA} = \mathbf{a}$ and $\vec{OC} = \mathbf{c}$.

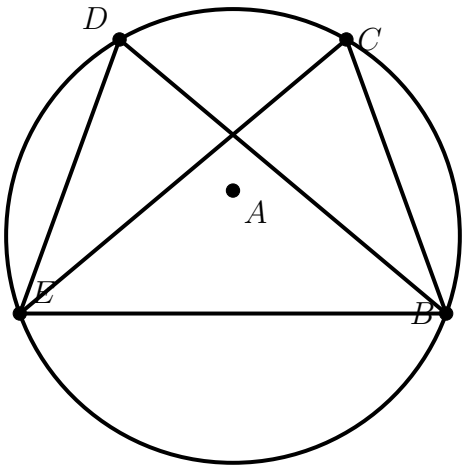
Point M is the midpoint of AB. Point N lies on OB such that $ON : NB = 2 : 1$.

(a) Find $\overrightarrow{OM}$ in terms of a and c.

(b) Find $\overrightarrow{ON}$ in terms of a and c.

(c) Show that C, M and N are collinear.

Q4. Below is a circle centred at A with two triangle.



(a) Justifying each step explain why the triangle BDE and BCE are similar but not necessarily congruent

(b) What extra information could help us conclude they are congruent.