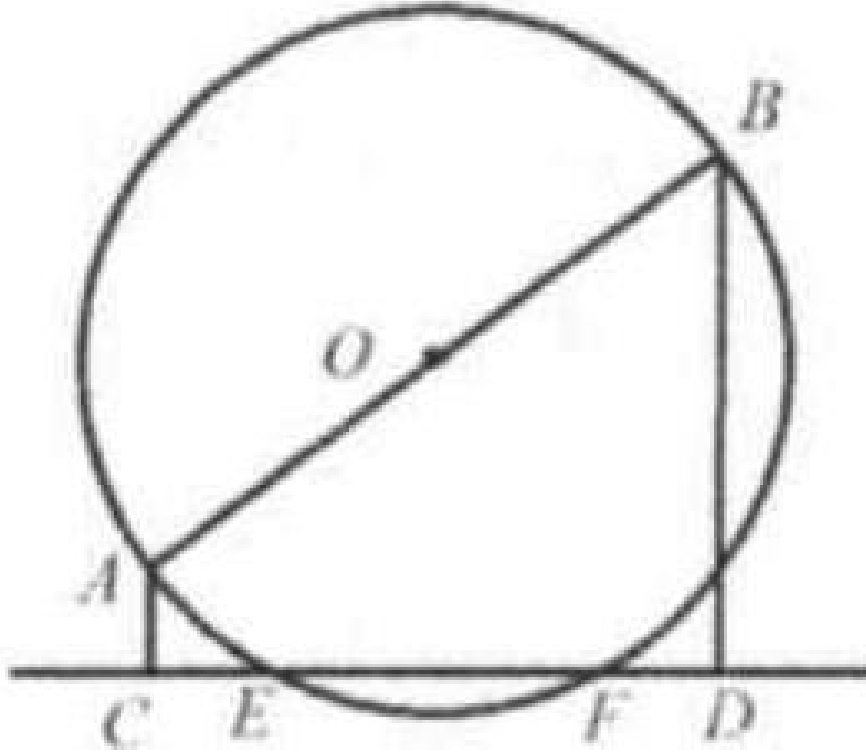


Problem

AB is the diameter and EF is the chord of circle O . AC and BD are the distances from A, B to chord EF , respectively. Show that $CE = FD$.



Solution

Draw $OM \perp EF$. M is the foot of the perpendicular from O to EF .

Since $AC \perp CD$, $BD \perp CD$, $OM \perp EF$, $AC \parallel BD \parallel OM$.

Since $AO = OB$, $CM = MD$

Since OM bisects EF , $EM = MF$

(1) $-$ (2) : $CE = FD$.

