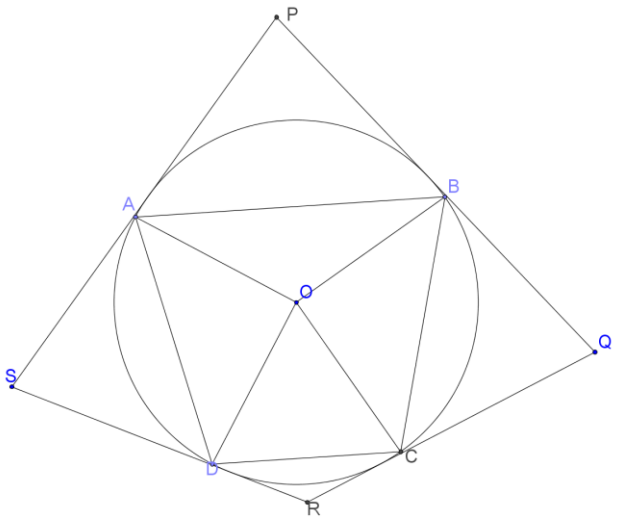

1.30 לפי חוק המעגל הוא 90° ← $\triangle ADO \cong \triangle BCO$ (3.3.3)

$\triangle AOD, \triangle BOC$ שווי שוקיים ← $\measuredangle A = \measuredangle B = 45^\circ$; $\measuredangle D = \measuredangle C = 60^\circ + 45^\circ$

← $\measuredangle AOB = 120^\circ$ ← $30^\circ = \measuredangle OAB = \measuredangle OBA$

$PQ \perp BO$ ← $\triangle AOBP$: $\measuredangle P = 60^\circ$ ← $\measuredangle P + \measuredangle R = 180^\circ$ ← $SRQP$ הוא המעגל המקיף

$\triangle OCR$: $\measuredangle R = 120^\circ$

$SD = DA$. (2 משולשים הולכים מעל אחד)

$\measuredangle SDA = 90^\circ$ $\measuredangle ADO = 45^\circ$

$\measuredangle S = 90^\circ$ "

לכן RP קוטר המעגל המקיף את $SRQP$ (נמצאים מול הקפות בת 90°)

$\triangle CRO \cong \triangle DRO$ (3.3.3)

← $\measuredangle DRO = 60^\circ$ $\measuredangle RDO = 90^\circ$

$RO = 2DO = 2a$

$\triangle POA \cong \triangle POB$ (3.3.3)

$\measuredangle BPO = 30^\circ$ $\measuredangle OBP = 90^\circ$ ← $OP = 2a$

ROP הוא ישר כי $\measuredangle POC + \measuredangle COB + \measuredangle BOP = 30 + 90 + 60 = 180^\circ$

$RP = 4a$

לכן הרדיוס המעגל המקיף הוא $2a$: