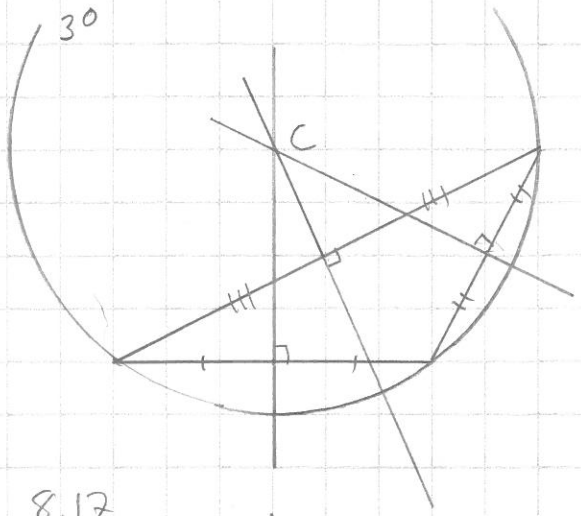
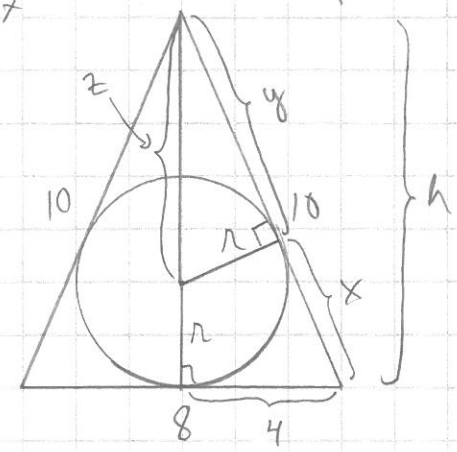


Kolmion sivujen keskinormaalit leikkaavat toisensa samassa pisteessä C joka on kolmion ympäri piirretyn ympyrän keskipiste.

8.17



$x = 4$ (symmetria)

$y = 10 - 4 = 6$

Pythagoras: $4^2 + h^2 = 10^2$

$\Leftrightarrow h^2 = 100 - 16 = 84$

$\Leftrightarrow h = \pm\sqrt{84} = \sqrt{4 \cdot 21} = 2\sqrt{21}$

$z = h - r$

Pythagoras: $r^2 + y^2 = z^2$

$\Leftrightarrow r^2 + 6^2 = (h - r)^2$

$\Leftrightarrow r^2 + 6^2 = h^2 - 2hr + r^2$

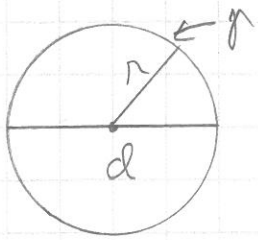
$\Leftrightarrow 36 = 84 - 2 \cdot 2\sqrt{21}\, r$

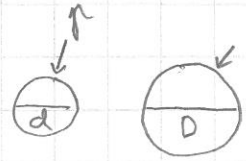
$\Leftrightarrow 4\sqrt{21}\, r = 48 \quad | : 4\sqrt{21}$

$\Leftrightarrow r = \frac{48}{4\sqrt{21}} = \frac{12}{\sqrt{21}}$

[muod 8.24 $r = \frac{2A}{a+b+c} = \frac{2 \cdot \frac{1}{2} \cdot 8 \cdot 2\sqrt{21}}{10+10+8} = \ldots$]

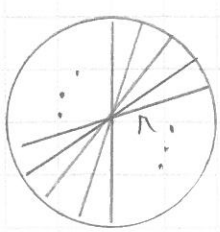
9. Ympyrän piiri ja pinta-ala

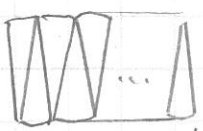




$p = \pi d = 2\pi r$	KEHÄN PITUUS
$A = \pi r^2$	PINTA-ALA

$\frac{p}{d} = \frac{P}{D} = \pi$ (piii)





$A = \pi r \cdot r = \pi r^2$

$\frac{p}{2} = \frac{2\pi r}{2} = \pi r$