

Printout

Thursday, April 6, 2017 8:13 AM

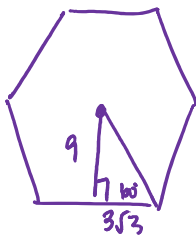
A series of horizontal blue lines for writing, with a vertical red margin line on the left side.

Geometry H
11.5

1) Find the area of an equilateral triangle with perimeter 27. $\rightarrow s = 9$

$$A = \frac{9^2 \sqrt{3}}{4} = \frac{81\sqrt{3}}{4}$$

2) Find the area of a regular hexagon with apothem of 9.



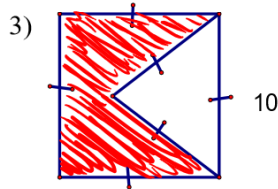
$$x\sqrt{3} = 9$$

$$x = \frac{9}{\sqrt{3}} \cdot \frac{\sqrt{3}}{\sqrt{3}} = \frac{9\sqrt{3}}{3} = 3\sqrt{3}$$

$$A = \frac{1}{2} \cdot 9 \cdot 6\sqrt{3} \cdot 6$$

$$= 162\sqrt{3}$$

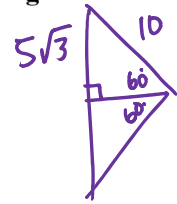
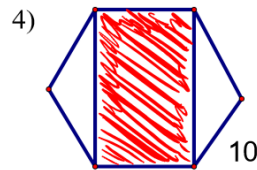
For questions 3 – 8, find the area of the shaded region. Assume all polygons are regular.



$$A = A_{sq} - A_{EQ\Delta}$$

$$= 100 - \frac{10^2 \sqrt{3}}{4}$$

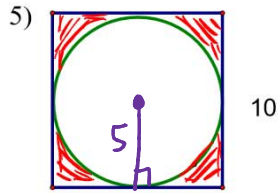
$$= 100 - 25\sqrt{3}$$



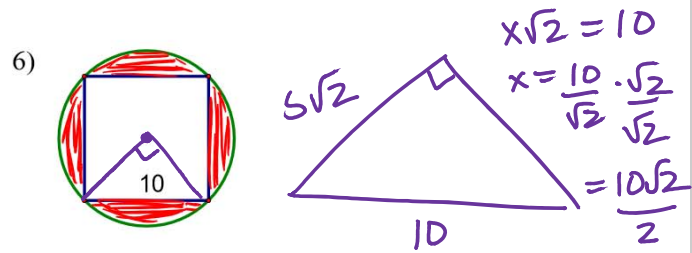
$$A = A_{HEX} - 2 \cdot A_{\Delta} \quad \text{OR} \quad \underline{s \cdot span}$$

$$A = 10 \cdot 10\sqrt{3}$$

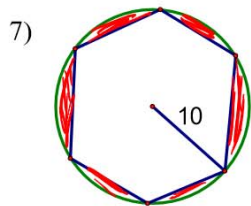
$$= 100\sqrt{3}$$



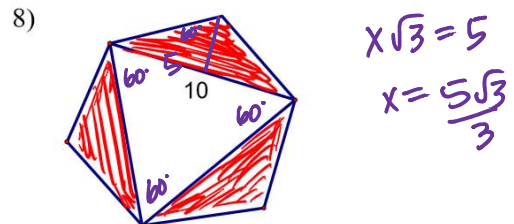
$$\begin{aligned}
 A &= A_{SQ} - A_O \\
 &= 100 - 5^2 \pi \\
 &= 100 - 25\pi
 \end{aligned}$$



$$\begin{aligned}
 A &= A_O - A_{SQ} \\
 &= (5\sqrt{2})^2 \pi - 100 \\
 &= 50\pi - 100
 \end{aligned}$$



$$\begin{aligned}
 A &= A_O - A_{HEX} \\
 &= 10^2 \pi - \frac{6 \cdot 10^2 \sqrt{3}}{4} \\
 &= 100\pi - 150\sqrt{3}
 \end{aligned}$$



$$\begin{aligned}
 A &= 3A_{\Delta} \\
 &= 3 \cdot \frac{1}{2} \cdot 10 \cdot \frac{5\sqrt{3}}{3} \\
 &= 25\sqrt{3}
 \end{aligned}$$