1. Find the measure of each numbered angle. Shown below is a portion of a regular 15-gon.

$360 \div 15 = 24°$

$\angle 1 = 78°$
$\angle 2 = 12°$
$\angle 3 = 24°$
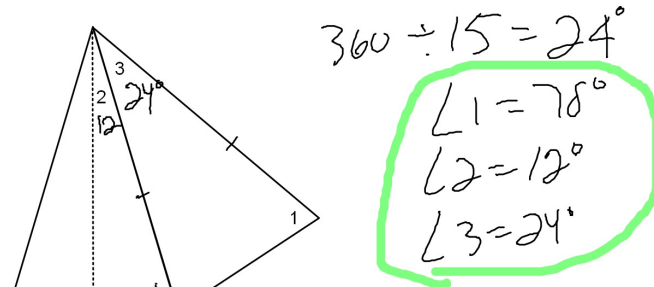
2. Find the exact area of a square whose radius is a 9cm.

$\frac{1}{2}ap$

$\frac{1}{2}\left(\frac{9}{\sqrt{2}}\right)\left(\frac{72}{\sqrt{2}}\right)$

$= 162 \, cm^2$

$p = 4\left(\frac{18}{\sqrt{2}}\right) = \frac{72}{\sqrt{2}}$
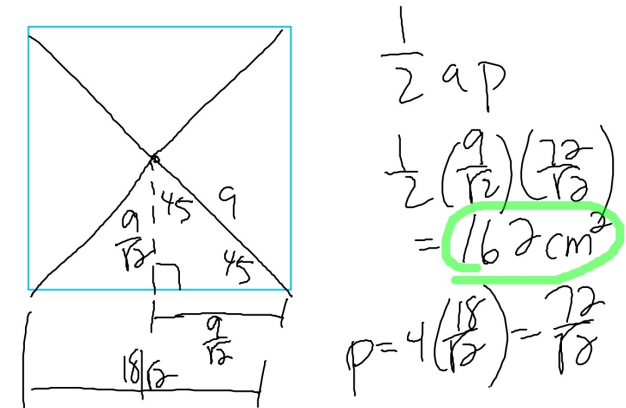
3. Find the exact area of a regular hexagon whose sides are 20in long.

$P = 6(20) = 120$
$a = 10\sqrt{3}$

$A = \frac{1}{2}(10\sqrt{3})(120) = 600\sqrt{3} \, in^2$
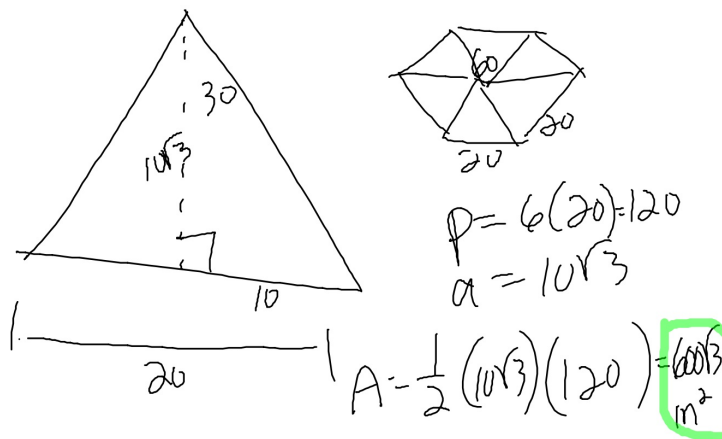
4. Find the exact area of an equilateral triangle whose apothem is 7ft long.

$A = \frac{1}{2}ap$

$= \frac{1}{2}(7)(42\sqrt{3})$

$A = 147\sqrt{3} \, ft^2$

$p = 3(14\sqrt{3})$
$= 42\sqrt{3}$