but, $A(x) = A(x)$

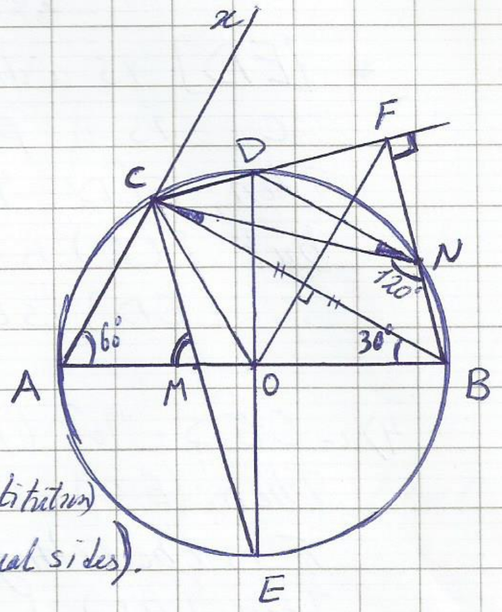
then, $\frac{SH(2x-1)}{2} = \frac{(x-2)\sqrt{3(x^2-1)}}{2}$.

hence, $SH = \frac{(x-2)\sqrt{3(x^2-1)}}{(2x-1)}$.

For $x = 3$

$$SH = \frac{(3-2)\sqrt{3(3^2-1)}}{(2(3)-1)} = \frac{1\sqrt{3\times 8}}{5} = \frac{2\sqrt{6}}{5}.$$

5th exercise:



1) Figure (not to a Scale).

2) In ΔACO we have:
$OA = OC = 5\,cm$ (radii of (C))
but $AC = 5\,cm$ (Given)
hence, $OA = OC = AC = 5\,cm$ (by substitution)
$\therefore$ ΔACO is equilateral (having 3 equal sides).

In ΔACB we have:
[AB] is a diameter of (C) (Given)
C is a point on (C) (Given)
Then, $A\hat{C}B = 90°$ (angle facing diameter).
But, $O\hat{A}C = 60°$ (angle formed by sides of equilateral ΔOAC).
So, $B\hat{A}C = 60°$ (A, O & B are collinear).
$\therefore$ ΔACB is a semi-equilateral Δ (having a $60°$ & $90°$ angles).

3) $A\hat{C}E = \frac{mes\,\overset{\frown}{AE}}{2}$. (Inscribed angle).