Part-B:

1) $S = \sqrt{1.3\bar{4}} \times \sqrt{10} + \frac{15(3-1)}{3} + 1.$

$= \sqrt{13.\bar{4}} + \frac{15(2)}{3} + \frac{1\times3}{1\times3}$

$= \sqrt{13+\frac{4}{9}} + \frac{33}{3}$

$= \sqrt{\frac{13\times9+4}{9}} + \frac{33}{3}$

$= \sqrt{\frac{11^2}{3^2}} + \frac{33}{3}$

So, $S = \frac{11+33}{3}$

Thus, $S = \frac{44}{3}$

2) $\triangle ACD$ is right at A (given)

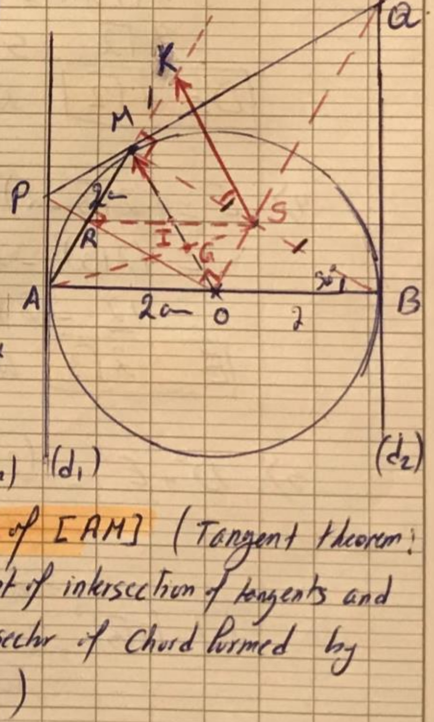
So, $\sin D\hat{C}A = \frac{\text{opp. to } \hat{C}}{\text{hyp}}$

$\sin D\hat{C}A = \frac{AD}{CD}$

hence, $AD = CD \sin A\hat{C}D$
$= CD(\sin(S))$

$\boxed{\text{Thus, } AD = 50 \sin \frac{44}{3}}$

Ex-3: 1) Drawn.



2) [PM) & [PA) are tangents to (C) at M & A resp (given).
And, (C) is a circle of center O (given)
Thus, (PO) is the perp. bisector of [AM] (Tangent theorem: st. line joining pt of intersection of tangents and center is perp. bisector of chord formed by pts of tangencies)

3) (PO) is perp. bisector of [AM] (proved)
So, PM = PA.
[QM) & [QB) are tangents to (C) at M & B resp. (given)