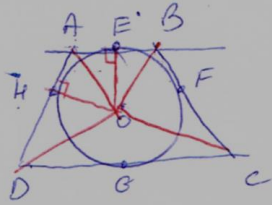


1.29  
3



$AE = AH = x$       1/20/1  $\leftarrow$   $\frac{1}{2}$   
 $EB = BF = y$   
 $FC = CG = z$   
 $DG = DH = w$

$AB + CD = x + y + z + w = AD + BC$

$\angle EAO = \alpha$ ,  $\angle AOE = 90 - \alpha$        $\leftarrow$   $2\alpha = \angle A$       1/10/1  $\leftarrow$   $\frac{1}{2}$   
 $\angle HDO = 90 - \alpha$ ,  $\angle HOD = \alpha$        $\leftarrow$   $180 - 2\alpha = \angle D$

$\angle AOD = 90^\circ$       (S.S)  $\triangle AEO \sim \triangle OHD$   $\leftarrow$   
 ...  
 $HO^2 = AH \cdot DH$ ,  $AO^2 = AE \cdot EB$ ,  $DO^2 = DG \cdot GC$   
 $CA \cdot OD = \sqrt{AH \cdot AD \cdot DH \cdot AD} = HO \cdot AD$       ①

②  $BO \cdot OC = OF \cdot BC$       1/20/1

$S_{ABCD} = \frac{HO \cdot AD}{2} + \frac{EO \cdot AB}{2} + \frac{OF \cdot BC}{2} + \frac{OG \cdot DC}{2}$       1/20/1

$R = OE = OF = OG = OH$

$S_{ABCD} = \frac{r}{2} (AD + AB + BC + DC)$

...  
 $AB + CD = AD + BC$

$S_{ABCD} = \frac{r}{2} (2AD + 2BC) = r(AD + BC)$   
 $=$  ② + ①

$OA \cdot OD + BO \cdot OC = HO \cdot AD + OF \cdot BC$   
 $= r(AD + BC) = S_{ABCD}$