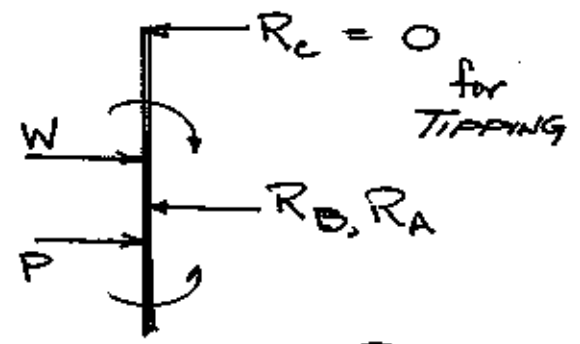
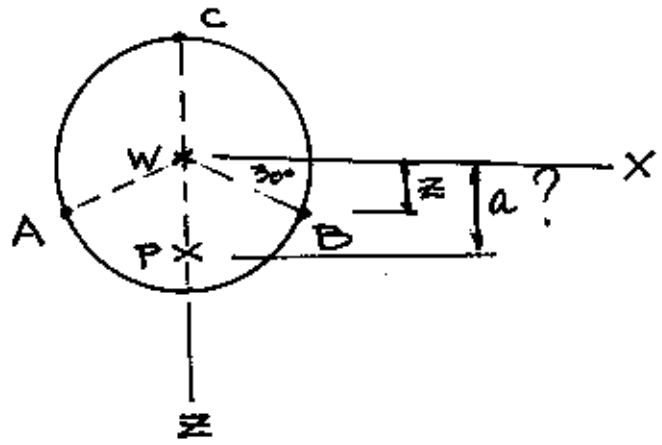


**PROB 4.101**

TABLE WEIGHS 30<sup>lb</sup> concentrated at center.  
 diam. = 4', radius = 2'  
 TABLE LEGS at 120° apart

LOAD, P = 100<sup>lb</sup>.

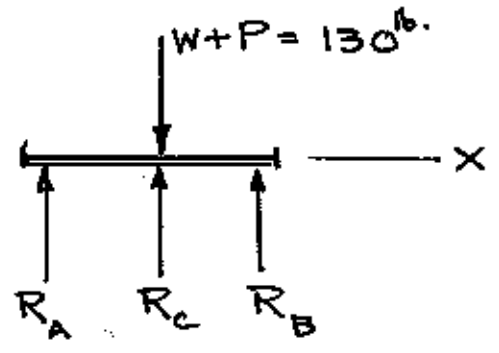
? determine max. dist. from center to place P  
 so table will not tip over (ie:  $\sum M = 0$ )



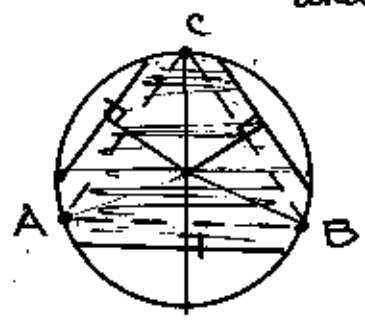
$\therefore \sum M_{AB} = 0 = Wz - P(a-z)$

where  $z = 2' \sin 30^\circ = 1'$   
 $30 \text{ ft}\cdot\text{lb} = 100a - 100a + 100z$

$\frac{130 \text{ ft}\cdot\text{lb}}{100 \text{ lb}} = a \leq 1.3 \text{ ft.}$   
 from center



P can also be 1.3 ft. from center betw. legs C & B  
 and " " " " " " " " A & C



1.3 ft. is measured  $\perp$  to line  
 betw. any 2 legs  
 from center of table

P can be anywhere inside  
 this area.