

4.  $m \cdot \frac{\cos \alpha \sin \beta}{\sin(\beta - \alpha)}$ .      5. (b) 28.28.
8. (a)  $\frac{A}{2} - \cos^{-1} \left[ \frac{m}{2} \sec \frac{A}{2} \right]$  and  $\frac{A}{2} + \cos^{-1} \left[ \frac{m}{2} \sec \frac{A}{2} \right]$ .
10.  $18^\circ, 126^\circ, 2.1028, 5.5066$ .
11. Sides  $b, c = 2 m \sin \alpha / \sin(\alpha + \beta), 2 m \sin \beta / \sin(\alpha + \beta)$ .
12.  $a = \frac{1}{2}(a+b) + \frac{1}{2} \cdot \frac{c^2 - c(a+b) \cos A}{(a+b) - c \cos A}$ ;  $b = \frac{1}{2}(a+b) - \frac{1}{2} \cdot \frac{c^2 - c(a+b) \cos A}{(a+b) - c \cos A}$ ; etc
13. 1034.3 ft.
15. N. E.  $15^\circ 30'$  S., or N. W.  $15^\circ 30'$  S.
22.  $9^\circ$ .
25. (a)  $\frac{l}{2} = (r+r')\pi - (r+r') \cos^{-1} \frac{r+r'}{d} + \sqrt{d^2 - (r+r')^2}$ .  
 (b)  $\frac{l}{2} = r\pi - (r-r') \cos^{-1} \frac{r-r'}{d} + \sqrt{d^2 - (r-r')^2}$ .
27. (a) 295.03 in.; (b) 297.54.
29.  $9^\circ 5'$ .
30. (a) 21.208 gms.; (b) 10.748 gms.
31. 44.8 kgms.      32. (a)  $69^\circ 44'$ ; (b) 18.76 ft.
33. (a) 35.5 lbs.; (b) 12.31 lbs.