35. <u>Solution #1</u>: From the figure on the right, we see that $\gamma = 106°$ and
$\sin 74° = \dfrac{3400}{b}$ $\Leftrightarrow$ $b = \dfrac{3400}{\sin 74°} \approx 3537$. Thus,
$x^2 = 800^2 + 3537^2 - 2(800)(3537) \cdot \cos 106°$ $\Rightarrow$
$x = \sqrt{800^2 + 3537^2 - 2(800)(3537) \cdot \cos 106°}$ $\Rightarrow$ $x \approx 3835$ ft.

<u>Solution #2</u>: Notice that $\tan 74° = \dfrac{3400}{a}$ $\Leftrightarrow$ $a = \dfrac{3400}{\tan 74°} \approx 974.9$.
By the Pythagorean theorem, $x^2 = (a + 800)^2 + 3400^2$. So,
$x = \sqrt{(974.9 + 800)^2 + 3400^2} \approx 3835$ ft.