927)e)

$\tan(\alpha) = \frac{\sin(\alpha)}{\cos(\alpha)}$ $\qquad \sin^2(\alpha) + \cos^2(\alpha) = 1$

$1 + \tan^2(\alpha) = 1 + (\frac{\sin(\alpha)}{\cos(\alpha)})^2 = 1 + \frac{\sin^2(\alpha)}{\cos^2(\alpha)} = \frac{\cos^2(\alpha)}{\cos^2(\alpha)} + \frac{\sin^2(\alpha)}{\cos^2(\alpha)} = \frac{cos^2(\alpha)+\sin^2(\alpha)}{\cos^2(\alpha)} = \frac{1}{\cos^2(\alpha)}$