1. Two boys are flying a kite. The string attached to the kite is 150ft long when stretched fully. (5pts)

a) If the boys sight the angle of elevation at 50 degrees. How high is the kite?

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b) Later, one of the boys measures the distance from the first boy to directly beneath the kite as 50ft. What is the angle of ascension to the kite? (Angle of elevation)

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2. Simplify the following expressions and circle the letter of the expression it matches. You must show some work.(5pts)

a) $\dfrac{\cos^2 \alpha - 1}{\cos \alpha - 1} =$

A. $\cos \alpha - 1$ B. $\sec \alpha + 1$ C. $\cos \alpha + 1$ D. $\dfrac{\sin^2 \alpha}{\cos \alpha - 1}$ E. None of the before

b) $\tan x \sec^2 x - \tan x =$

A. 1   B. $\cot x$ C. $\tan^3 x$ D. $\dfrac{\sin x}{\cos^3 x}$ E. None of the before