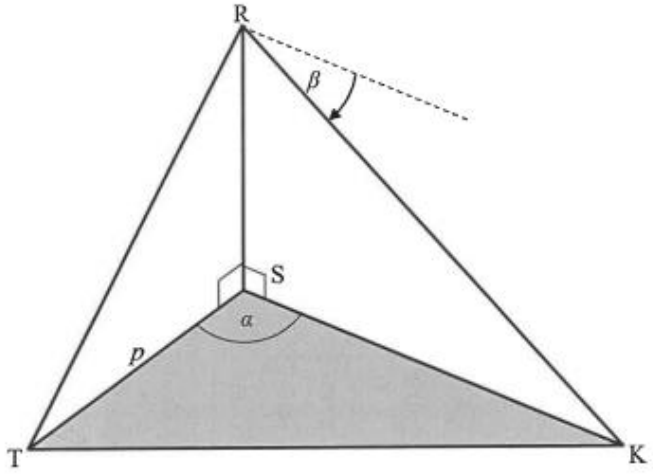
Trigonometry 3-D

Exercise A

QUESTION 7

In the diagram, S, T and K lie in the same horizontal plane. RS is a vertical tower. The angle of depression from R to K is β. $\hat{TSK} = \alpha$, TS = p metres and the area of ΔSTK is q m^2.



7.1 Determine the length of SK in terms of p, q and α.

7.2 Show that $RS = \dfrac{2q \tan \beta}{p \sin \alpha}$

7.3 Calculate the size of α if $\alpha < 90°$ and RS = 70 m, p = 80 m, q = 2 500 m^2 and β = 42°.