

ATPL Instruments Typical Exam Question 25

Note: This question is to be solved using the slide rule computer.

To calculate true altitude, the pressure altitude, outside air temperature and the difference between indicated altitude and the altitude of the ground station must be known. There is sufficient information in the question to calculate all of these.

Indicated altitude is 9,600 feet on an altimeter setting of 29.87"Hg

This is equal to a pressure altitude of 9,650 feet.

Given that we have a current altimeter setting, based on the station at Smithers, BC, which is at 1,712 feet, the altimeter should indicate correctly when on the ground at 1,712 feet. The altimeter will therefore only be in error for the difference between the indicated altitude and the altitude of the ground station. This amounts to $9,600 \text{ ft} - 1,712 \text{ ft} = 7,888 \text{ ft}$.

Using these values in the slide rule yields a true height above the ground station of approximately 6,800 feet. This corresponds to an altitude of $6,800 \text{ ft} + 1,712 \text{ ft} = 8,512 \text{ ft}$. The ridge is 8,450 feet and therefore the clearance is a little under 100 feet – specifically 62 feet. Note that this answer is approximate because of the resolution of the slide rule.

Answer a) is correct.