

Private Pilot Exam Preparation Guide – 2025

Section 4.2 – General Knowledge Questions Question 17, Page 129 (eBook C04-009)

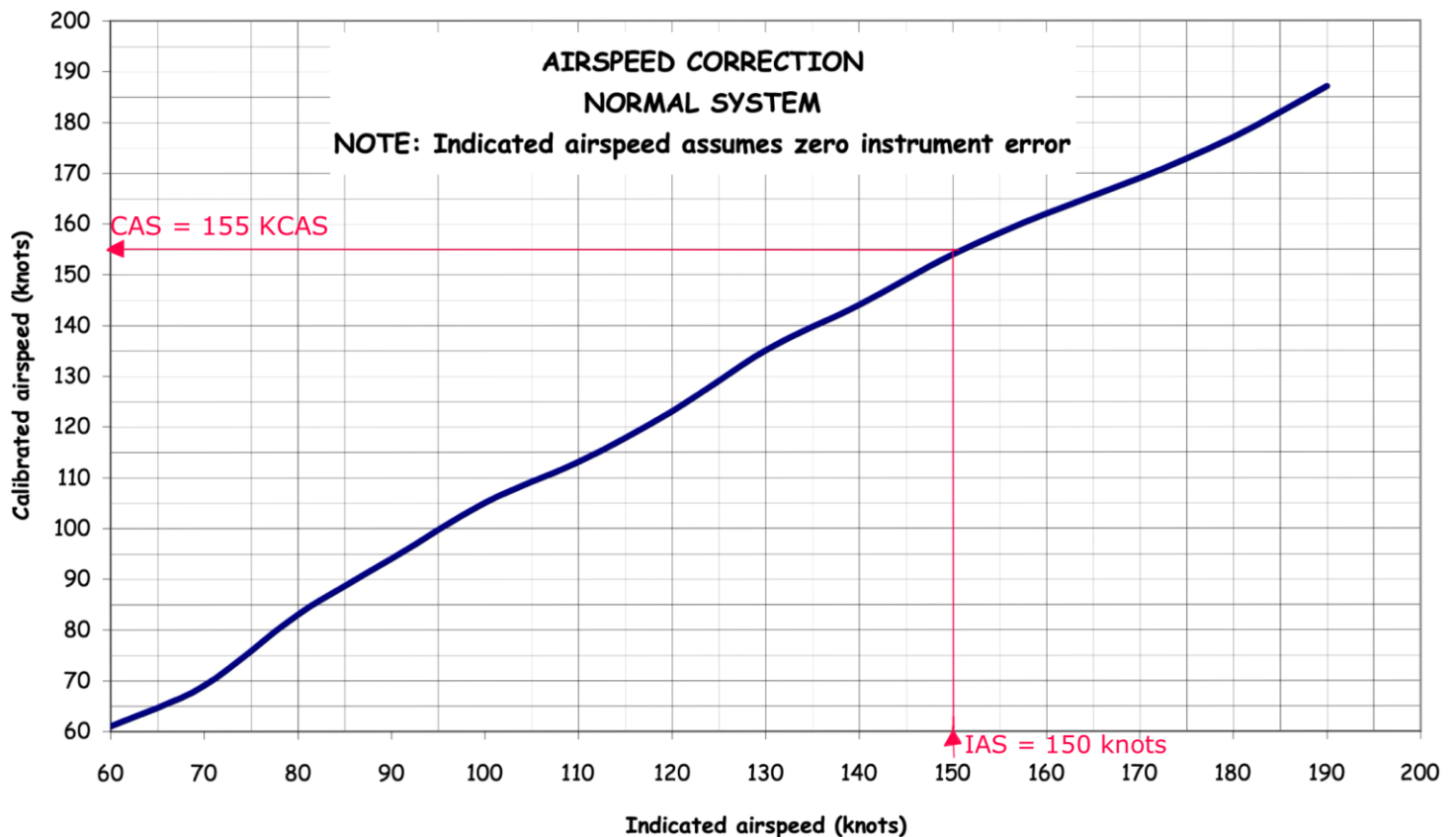
This question asks you to calculate the true airspeed, using an airspeed calibration chart and the following information:

Indicated Airspeed:	150 knots
Outside Air Temperature:	20°C
Altimeter Setting:	29.87" Hg
Indicated Altitude:	4,500 ft ASL

To determine the true airspeed using the E6-B, one needs to know the calibrated airspeed (CAS), the pressure altitude (PA) and the outside air temperature (OAT).

1. Determining the calibrated airspeed:

You are provided an indicated airspeed of 150 KIAS. This needs to be corrected to a calibrated airspeed which can be done using the chart provided in appendix D1 as indicated in the question.



Doing this yields a calibrated airspeed of 155 KCAS as shown above.

2. To work further and convert the calibrated airspeed to a true airspeed you will need the OAT and the pressure altitude.

a. The OAT is provided as 20°C

b. To determine the pressure altitude, you will need the indicated altitude and the altimeter setting.

The stated indicated altitude is 4,500' while the stated altimeter setting is 29.87" Hg. Using these two pieces of information you can determine that the pressure altitude is 4,550 feet.

You now have all the information that you require to determine the true airspeed using the E6-B. The correct steps are shown on the screenshot of the slide-rule version of the E6B below.

