



Flight Planning Computations

Flight Planning Computation Tips

There are three types of computation problems on the IFR/CFII written.

- Determine the CAS (calibrated airspeed) required to maintain a certain TAS at a given OAT and altitude. Use the E6-B flight computer, remembering that CAS is read on the middle scale.

- Determine the rate of climb or descent to meet restrictions of DPs, or to maintain the glideslope given a certain groundspeed. Look in the Legend to find the table, and just read the answer.

- Determine the time enroute for an IFR flight. This involves a wind solution, and very few people get these questions correct. Fortunately, the correct answer for seven of the eight questions is the time closest to 1 hour 30 minutes.

4259.

(Refer to figures 21 & 21A, 22 & 22A, 23, 24, 25, and 26) After departing GJT and arriving at Durango Co., La Plata Co. Airport, you are unable to land because of weather. How long can you hold over DRO before departing for return flight to the alternate, Grand Junction Co., Walker Field Airport?

Total useable fuel on board, 68 gallons.
Average fuel consumption 15 GPH.
Wind and velocity at 16,000, 2308-16°.

- A)** 1 hour 33 minutes.
- B) 1 hour 37 minutes.
- C) 1 hour 42 minutes.

4260. H342 IRA

(Refer to FD excerpt below, and use the wind entry closest to the flight planned altitude.) Determine the time to be entered in block 10 of the flight from GJT to DRO.

Route of flight Figure 21
Flight log & MAG VAR Figure 22
En route chart Figure 24
FT 12,000 18,000
FNM 2408-05 2208-21

- A)** 1 hour 08 minutes.
- B) 1 hour 03 minutes.
- C) 58 minutes.

4265. H342 IRA

(Refer to figures 21, 22, and 24.) What fuel would be consumed on the flight between Grand Junction Co. and Durango, Co. if the average fuel consumption is 15 GPH.

- A)** 17 gallons.
- B) 20 gallons.
- C) 25 gallons.

4267.

(Refer to figures 27 and 28.) What CAS must be used to maintain the filed TAS at the flight planned altitude if the outside air temperature is -5 °C?

- A) 134 KCAS.
- B)** 139 KCAS.
- C) 142 KCAS.

4268 H342 IRA

(Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.) Determine the time to be entered in block 10 of the flight plan.

Route of flight Figures 27, 28, 29, 30, & 31
Flight log & MAG VAR Figure 28
GNATS ONE DEPARTURE
and Excerpt from AFD Figure 30
FT 3000 6000 9000
OTH 0507 2006+03 2215-05

- A) 1 hour 10 minutes.
- B) 1 hour 15 minutes.
- C)** 1 hour 20 minutes.

4270.

(Refer to figure 30.) Using an average groundspeed of 120 knots, what minimum rate of climb must be maintained to meet the required climb rate (feet per NM) to 4,100 feet as specified on the instrument departure procedures.

- A) 400 feet per minute.
- B) 500 feet per minute.
- C)** 800 feet per minute.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4278. H342 IRA

(Refer to figure 32.) What CAS must be used to maintain the filed TAS at the flight planned altitude if the outside air temperature is +8 °C?

- A) 154 KCAS.
- B) 157 KCAS.**
- C) 163 KCAS.

4279. H342 IRA

(Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.) Determine the time to be entered in block 10 of the flight plan.

Route of flight.....Figures 32, 33, 34, & 36
Flight log & MAG VAR.....Figure 33
RNAV RWY 33 & Excerpt from AFD.....Figure 36
FT 3000 6000 9000 12000
DAL 2027 2239+13 2240+08 2248+05

- A) 1 hour 35 minutes.**
- B) 1 hour 41 minutes.
- C) 1 hour 46 minutes.

4289.

(Refer to figure 38.) What CAS must be used to maintain the filed TAS at the flight planned altitude if the outside air temperature is +05 °C?

- A) 129 KCAS.**
- B) 133 KCAS.
- C) 139 KCAS.

4290. H342 IRA

(Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.) Determine the time to be entered in block 10 of the flight plan.

Route of flight.....Figures 38, 39, and 40
Flight log & MAG VAR.....Figure 39
ACTON TWO ARRIVAL.....Figure 41
FT 3000 6000 9000 12000
ABI 2033+13 2141+09 2142+05

- A) 1 hour 24 minutes.
- B) 1 hour 26 minutes.
- C) 1 hour 31 minutes.**

4298. J42 IRA

(Refer to figures 42A) What rate of descent should you plan to use initially to establish the glidepath for the ILS RWY 36L approach? (Use 120 knots groundspeed.)

- A) 425 feet per minute.
- B) 530 feet per minute.
- C) 635 feet per minute.**

4301. H342 IRA

(Refer to figure 44.) What CAS must be used to maintain the filed TAS at the flight planned altitude if the outside air temperature is +5 °C?

- A) 147 KCAS.**
- B) 150 KCAS.
- C) 154 KCAS.

4302. H342 IRA

Determine the time to be entered in block 10 of the flight plan. (Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.)

Route of flight.....Figures 44, 45, 46, and 47
Flight log & MAG VAR.....Figure 45
GROMO TWO DEPARTURE
and Excerpt from AFD.....Figure 46
FT 3000 6000 9000 12000
YEM 1615 1926+12 2032+08 2035+05

- A) 54 minutes.
- B) 1 hour 02 minutes.**
- C) 1 hour 07 minutes.

4303.

(Refer to figure 46.) Using an average groundspeed of 140 knots, what minimum indicated rate of climb must be maintained to meet the required climb rate (feet per NM) to 6,300 feet as specified on the SID?

- A) 350 feet per minute.
- B) 583 feet per minute.
- C) 816 feet per minute.**

4313. H342 IRA

(Refer to figure 50.) What CAS must be used to maintain the filed TAS at the flight planned altitude? (Temperature 0 °C.)

- A) 136 KCAS.
- B) 140 KCAS.**
- C) 147 KCAS.

NOTE: CORRECT ANSWER IN BOLD ITALICS



4314. H342 IRA

Determine the time to be entered in block 10 of the flight plan. (Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.)

Route of flight.....Figures 50, 51, 52, and 53

Flight log and MAG VAR.....Figure 51

HABUT ONE DEPARTURE

and Excerpt from AFD.....Figure 52

FT 3000 6000 9000

SBA 0610 2115+05 2525+00

A) 43 minutes.

B) 46 minutes.

C) 51 minutes.

4316.

(Refer to figure 52.) Using an average groundspeed of 100 knots, what minimum rate of climb would meet the required minimum climb rate per NM as specified by the DP?

A) 425 feet per minute.

B) 580 feet per minute.

C) 642 feet per minute.

4319.

(Refer to figures 55)

Using an average groundspeed of 90 knots, what constant rate of descent from 2,400 feet MSL at the 6 DME fix would enable the aircraft to arrive at 2,000 feet MSL at the FAF?

A) 200 feet per minute.

B) 400 feet per minute.

C) 600 feet per minute.

4345

(Refer to figure 69.) What CAS should be used to maintain the filed TAS if the outside air temperature is +05 °C?

A) 119 KCAS.

B) 124 KCAS.

C) 126 KCAS.

NOTE: CORRECT ANSWER IN BOLD ITALICS

4346. H342 IRA

Determine the time to be entered in block 10 of the flight plan. (Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.)

Route of flight Figures.....69, 70, and 71

Flight log and MAG VAR.....Figure 70

JUDDS TWO ARRIVAL

and Excerpt from AFD.....Figures 72 and 72A

FT 3000 6000 9000

BDL 3320 3425+05 3430+00

A) 1 hour 14 minutes.

B) 58 minutes.

C) 50 minutes.

4354.

(Refer to figure 73) Using an average groundspeed of 90 knots on the final approach segment, what rate of descent should be used initially to establish the glidepath for the ILS RWY 6 approach procedure?

A) 395 feet per minute.

B) 480 feet per minute.

C) 555 feet per minute.

4359.

(Refer to figure 74.) What CAS should be used to maintain the filed TAS at the flight planned altitude if the outside air temperature is +5 °C?

A) 129 KCAS.

B) 133 KCAS.

C) 139 KCAS.

4364.

(Refer to figure 77.) Using an average groundspeed of 140 knots, what minimum rate of climb would meet the required minimum climb rate per NM as specified on the DP?

A) 350 feet per minute.

B) 475 feet per minute.

C) 700 feet per minute.

4360. H342 IRA

Determine the time to be entered in block 10 of the flight plan. (Refer to the FD excerpt below, and use the wind entry closest to the flight planned altitude.)

Route of flight.....Figures 74, 75, 76, 77, and 78

Flight log & MAG VAR.....Figure 75

VOR indications

and Excerpts from AFD.....Figure 76

FT 6000 9000 12000 18000

BIL 2414 2422+11 2324+05 2126-11

A) 1 hour 15 minutes.

B) 1 hour 20 minutes.

C) 1 hour 25 minutes.



4418.

A particular DP requires a minimum climb rate of 210 feet per NM to 8,000 feet. If you climb with a groundspeed of 140 knots, what is the rate of climb required in feet per minute?

- A) 210.
- B) 450.
- C) 490.**

4492.

(Refer to figure 85.) Of the following, which is the minimum acceptable rate of climb (feet per minute) to 9,000 feet required for the WASH2 WAGGE departure at a GS of 150 knots?

- A) 750 feet per minute.
- B) 825 feet per minute.
- C) 1,000 feet per minute.**

4511. H342 IRA

(Refer to figure 91.) What should be the approximate elapsed time from BZN VOR to DBS VORTAC, if the wind is 24 knots from 260° and your intended TAS is 185 knots? (VAR 17 °E.)

- A) 33 minutes.
- B) 37 minutes.
- C) 39 minutes.**

4514. H342 IRA

(Refer to figure 91.) Southbound on V257, at what time should you arrive at DBS VORTAC if you crossed over CPN VORTAC at 0850 and over DIVID intersection at 0854?

- A) 0939.
- B) 0943.**
- C) 0947.

4604.

Determine the approximate time and distance to a station if a 5° wingtip bearing change occurs in 1.5 minutes with a true airspeed of 95 knots.

- A) 16 minutes and 14.3 NM.
- B) 18 minutes and 28.5 NM.**
- C) 18 minutes and 33.0 NM

NOTE: CORRECT ANSWER IN BOLD ITALICS