

1. 495 statute miles =
 - a. 453 nm
 - b. 470 nm
 - c. 430 nm
 - d. 533 nm

2. What is the density altitude?
Given: Field elevation: 4,510'
Air temperature: 62°F
 - a. 5,500'
 - b. 5,100'
 - c. 6,400'
 - d. 6,000'

3. How much fuel will you burn in 3:22:00 at 12.1 GPH?
 - a. 39.7 gal.
 - b. 37.9 gal.
 - c. 40.7 gal.
 - d. 42.1 gal.

4. Based on the following data, what will your TRUE HEADING be?
Given: True course: 212°
Wind: 270° @ 17 kts.
Magnetic variation: 5°W
Magnetic deviation: 3°E
True airspeed: 138 kts.
 - a. 218°
 - b. 206°
 - c. 224°
 - d. 199°

5. How long will it take to travel 315 NM at a groundspeed of 167 kts.?
 - a. 1 hour 47 minutes
 - b. 1 hour 53 minutes
 - c. 1 hour 41 minutes
 - d. 1 hour 59 minutes

6. You need to clear a hilltop that is 4.5 NM from the end of the runway that is 1700' above the runway elevation. You estimate your groundspeed during the climb to be 87 kts. To clear the hilltop by 500' what must your minimum rate of climb be?
 - a. 709 ft./min.
 - b. 548 ft./min.
 - c. 677 ft./min.
 - d. 732 ft./min.

7. How long will it take to travel .75 NM at a groundspeed of 121 kts.?
 - a. 37 sec.
 - b. 19 sec.
 - c. 28 sec.
 - d. 22 sec.

8. You've traveled for $\frac{3}{5}$ of an hour at a rate of 32 ft per second. How much distance did you cover?
- 11.2 sm
 - 13.1 sm
 - 15.1 sm
 - 12.9 nm
9. Given:
- MC = 072° , TH = 058° , Wind Direction = 101° , Variation = 22° W, Ground speed = 164 mph, Wind Speed = 31 kts, Deviation = 4° E, TAS = 177 kts
- What is your TC?
- 076°
 - 054°
 - 050°
 - 058°
10. 18 km equals how many feet?
- 9701'
 - 21055'
 - 59055'
 - 73568'
11. 84.1 Imperial gallons of fuel burned over a 5.43 hr flight. What was the burn rate (US)?
- 15.4 gph
 - 18.6 gph
 - 28.4 gph
 - 25.8 gph
12. Your TAS is 223 mph at 14,500' in a standard atmosphere. What is the Mach number?
- .12 Mach
 - .37 Mach
 - .14 Mach
 - .31 Mach
13. You're departing runway 34 with the wind reported to be 295° at 22 mph. What is the headwind component?
- 14 kts.
 - 20 km/h
 - 16 kts.
 - 12 mph
14. 2784 Imperial gallons of fuel weighs
- 2507 lbs.
 - 23201 lbs.
 - 16704 lbs.
 - 20058 lbs.

15. You began a trip with full tanks. You've traveled for 2:40:00, and used 21.7 gallons of fuel. With 1:22:00 of flying time remaining, and a ground speed of 141 kts. how much fuel will it take to fill the tanks at the end of the flight? .
- a. 32.8 gal.
 - b. 24.2 gal.
 - c. 36.8 gal.
 - d. 13.4 gal.

16. How long will it take to travel 372 statute miles covering 9.5 km per minute?
- a. 57 minutes
 - b. 1 hour 3 minutes
 - c. 1 hour 9 minutes
 - d. 1 hour 18 minutes

17. What is your true altitude?

- Average ground speed: 113 kts.
 - True course: 280°
 - Wind: 120° @ 12 kts.
 - Indicated altitude: 10,000'
 - Outside air temperature: -10°F
 - Pressure altitude same as indicated
- a. 8,840'
 - b. 9,125'
 - c. 9,460'
 - d. 9,312'

18. How much fuel will be needed for a flight based on the following data?
Given:

- Fuel consumption: 57.2 pph
 - Wind: 315° @ 14 kts.
 - True course: 132°
 - Trip length: 412 NM
 - Indicated airspeed: 126 kts.
 - Indicated altitude: 6,500'
 - (pressure altitude is the same)
 - Outside air temperature: + 16°C
- a. 22.6 gal.
 - b. 25.1 gal.
 - c. 26.6 gal.
 - d. 20.9 gal.

19. What is your wind correction angle?
Given:
True course: 039°
True airspeed: 198 kts.
Wind: 130° @ 18 kts.
- a. 7° R
 - b. 6° L
 - c. 5° R
 - d. 4° L
20. Your aircraft is filled with 41 gallons of useable fuel. At 9.65 gallons per hour, how much fuel (useable) will be left if you fly 323 NM in 117 minutes?
- a. 22.2 gal.
 - b. 20.8 gal.
 - c. 23.7 gal.
 - d. 19.8 gal.
21. If an aircraft uses 38.1 gallons of fuel at 10.7 gallons per hour while flying 518 NM, what is its groundspeed?
- a. 141 kts.
 - b. 146 kts.
 - c. 173 mph
 - d. 151 kts.
22. To maintain a climb rate of 521 ft. per nautical mile at a groundspeed of 107 kts., what minimum vertical rate of climb will you need?
- a. 874 ft./min.
 - b. 976 ft./min.
 - c. 929 ft./min.
 - d. 1,012 ft./min.
23. You depart an airport with an elevation of 1023'. At an average rate of climb of 678 ft./min., how long will it take to climb to an altitude of 9,500' at a groundspeed of 94 kts.?
- a. 12.1 min.
 - b. 12.5 min.
 - c. 13.1 min.
 - d. 11.8 min.
24. The distance between two checkpoints is 18 NM. You cross the first checkpoint at 10:11. At 10:17 you cross checkpoint #2. The remaining trip distance is 175 NM. What will be your ETA based on your computed groundspeed?
- a. 11:09
 - b. 11:02
 - c. 11:19
 - d. 11:15

25. Refer to the previous question to answer the following: You've traveled 87 NM upon crossing checkpoint #2 and used 9.1 gallons of fuel. You departed with 65 gallons of useable fuel. How much will remain upon landing?
- 18.5 gal.
 - 37.6 gal.
 - 27.5 gal.
 - 32.6 gal.
26. What is the density altitude?
Given: Airport elevation: 4,650'
Air temperature: 77°F
Altimeter setting: 29.37
- 7,620'
 - 7,900'
 - 6,780'
 - 6,330'
27. Your aircraft travels 13.1 NM per gallon of fuel. At a true airspeed of 206 knots, how many gallons per hour does it burn? (no wind)
- 15.2 gph
 - 15.7 gph
 - 16.1 gph
 - 16.3 gph
28. You cross the 087° radial from the DJB VOR at 11:15. You cross the 101° radial at 11:19:30. How many minutes flying time are you from the VOR at a groundspeed of 146 kts?
- 20 minutes 23 seconds
 - 18 minutes 47 seconds
 - 20 minutes 59 seconds
 - 19 minutes 18 seconds
29. Based on the preceding question, how many miles are you from the VOR?
- 46.9 nm
 - 43.2 nm
 - 44.8 nm
 - 47.8 nm
30. Based on the following data. how far can you fly and still have 30 minutes of useable fuel remaining?
Given: True course: 175°
Outside air temperature: -11°C
Fuel consumption: 13.4 gph
Wind: 060 @ 17 kts.
Press. Altitude: 7,500'
Indicated airspeed: 164kts.
Useable fuel: 53.0 gal.
- 646 nm
 - 687 nm
 - 732 nm
 - 622 nm

31. What is your groundspeed in the preceding problem?
a. 181 kts.
b. 189 kts.
c. 207 mph
d. 185 kts.
32. What is the wind speed at your altitude?
Given:
Magnetic heading: 228°
Variation: 7°E
True Track: 231°
Deviation: + 10°
Groundspeed: 132 kts.
True airspeed: 155 kts
a. 25 kts
b. 19 kts.
c. 15 kts.
d. 29 kts.
33. In the previous question, what direction are the winds from?
a. 249°
b. 259°
c. 254°
d. 263°
34. How far will you travel in 4:09:00 at an average groundspeed of 121 kts.?
a. 512 nm
b. 492 nm
c. 522 nm
d. 502 nm
35. An aircraft flies to a destination 297 NM away. at a true airspeed of 109 kts. With 48.5 gallons of useable fuel, at an average rate of 11.5 gph, how long can the aircraft stay aloft over the destination airport and still have 30 minutes of fuel left? (Assume NO WIND)
a. 60 min.
b. 56 min.
c. 68 min.
d. 89 min.
36. What is the wind correction angle?
Given:
Wind: 145@28 kts.
True course: 199°
True airspeed: 131 kts.
a. 9° R
b. 10° L
c. 8° L
d. 11° R

37. Based on question #36, what would your magnetic heading be if the magnetic variation was 9°E?
- a. 171°
 - b. 162°
 - c. 189°
 - d. 180°
38. What is the density altitude?
Given: Field elevation: 3,750
Altimeter 29.91"
Air temperature 92°F
- a. 7,100'
 - b. 6,100'
 - c. 6,600'
 - d. 7,300'
39. To clear an obstacle 3.4 NM from the runway end you determine that you will need to climb 425' for every nautical mile you travel. At a ground speed of 77 kts., what must your MINIMUM vertical rate of climb be?
- a. 545 fpm
 - b. 521 fpm
 - c. 567 fpm
 - d. 515 fpm
40. What is your true altitude?
Given:
Pressure altitude: 12,500'
Calibrated altitude: 12,500'
Outside air temperature: -12°C
- a. 12,700'
 - b. 11,950'
 - c. 12,240'
 - d. 12,400'