1. How many meters does it take to equal 121 feet?
a) 37
b) 40
c) 21
d) 45

2. If your speed is 131 knots, what is the speed in mph?
a) 146
b) 113
c) 151
d) 157

3. The distance between two cities is 217 kilometers. What is this in nm?
a) 390
b) 117
c) 267
d) 132

4. How many U.S. gallons does it take to equal 67 liters?
a) 21
b) 18
c) 33
d) 14

5. 161 U.S. gallons of fuel (gasoline) equal how many pounds?
a) 268
b) 498
c) 821
d) 966

6. 47 pounds of oil is equal to how many quarts?
a) 25
b) 18
c) 29
d) 6

7. 98 x 36 equals?
a) 2750
b) 3278
c) 3528
d) 3845

8. 445 divided by 14.7 equals?
a) 65.4
b) 30.3
c) 20.5
d) 26.1

9. You are flying at a P.A. of 10,500' at an IAS of 102 knots, and the OAT is -11 C°. What is the TAS?
a) 88 knots
b) 119 knots
c) 117 mph
d) 232 kph

10. The pressure altitude is 3,200' and the outside air temperature is 88°F. What is the density altitude?
a) 5900 feet
b) 4915 feet
c) 6410 feet
d) 5250 feet

11. You plan a flight of 4:00 hours. Your plane uses 8.1 gallons of fuel per hour. How many gallons are required for the trip with a :30 fuel reserve?
a) 27.3
b) 34.1
c) 36.5
d) 32.4

12. Your aircraft burns .8 gallons of fuel in 9 minutes. What is the hourly fuel burn rate?
a) 9.9 gph
b) 14.8 gph
c) 6.7 gph
d) 5.3 gph

13. If you fly 402 nm, with a fuel burn rate of 12.5 gph, and use 35 gallons, what is your ground speed?
a) 155 knots
b) 144 knots
c) 133 knots
d) 176 knots

14. You are planning a 296 sm flight; the PA is 5,000'; wind is calm; OAT is -1°C; IAS will be 129 mph and the fuel burn rate is 9.3 gph. How many gallons of fuel are required (no reserve)?
a) 19.9
b) 19.2
c) 18.7
d) 20.7

15. A pilot files for 12 minutes and 17 seconds at a ground speed of 132 mph. What is the distance flown?
a) 31 statute miles
b) 22 statute miles
c) 30 statute miles
d) 27 statute miles

16. You are flying a pressure altitude of 9,000' and the OAT Is -8°C. What IAS is needed to give a TAS of 154 knots?
a) 174 knots
b) 136 knots
c) 142 knots
d) 129 knots

17. If your aircraft burns 32.2 gallons of fuel at the rate of 9.7 gph while flying 385 miles; what is the aircraft's speed?
a) 117 mph
b) 131 mph
c) 109 mph
d) 144 mph

18. You are flying at an Indicated Altitude of 6,000 feet; OAT is -27°C; and the altimeter setting is 29.78"Hg. What is the pressure altitude and true altitude?
a) PA 5860' / TA 5400'
b) PA 6140' / TA 6650'
c) PA 5870' / TA 5390'
d) PA 6140' / TA 5450'

19. How much fuel will be burned during the following flight?
PA = 9,500', Temp = standard for that altitude, IAS = 153 mph, Wind = 044˚ at 26 knots, TC = 315˚, Distance = 371 statute miles, Fuel Burn Rate = 63 lbs. per hour
a) 19.7 gallons
b) 21.0 gallons
c) 22.3 gallons
d) 22.9 gallons

20. You are flying at an airspeed of 431 knots, how many nm are you covering each minute?
a) 2.59 nm per minute
b) 7.18 nm per minute
c) 5.51 nm per minute
d) 8.21 nm per minute

21. Convert 37.3 minutes to hundredths of an hour.
a) .55
b) .68
c) .57
d) .62

22. Wind = 079° at 21 mph, TC = 025°, TAS = 158 mph. Find true heading and ground speed.
a) 026˚ / 155 mph
b) 031° / 145 mph
c) 026° / 147 knots
d) 180° / 149 knots

23. TC = 229°, GS = 158 knots, TH = 220°, TAS = 143 knots. Find: Wind correction angle, wind direction, and wind velocity.
a) 9°R, 279°, 27 kts
b) 9°L, 091°, 24 kts
c) 9°L, 112°, 32 kts
d) 9°L, 101°, 27 kts

24. TH = 037°, TAS = 127 mph, Wind = 287° at 26 mph. Find true course and ground speed.
a) 053°, 142 mph
b) 045°, 142 knots
c) 041°, 126 kts
d) 047°, 123 kts

25. TC = 341°, GS = 224 mph, Wind = 257° at 41 knots. Find true heading and TAS.
a) 329°, 203 kts
b) 354°, 201 kts
c) 231°, 151 kts
d) 330°, 199 mph

26. TH = 297°, GS = 132 mph, Wind = 007° at 22 knots. Find true course and true airspeed.
a) 281°, 129 mph
b) 287°, 139 mph
c) 278°, 125 mph
d) 291°, 120 knots

27. To maintain a climb rate of 416 feet per statute mile with a ground speed of 102 mph, what is the minimum rate of climb needed in feet per minute?
a) 707
b) 225
c) 379
d) 621

28. You are flying a double drift at a TAS of 150 mph.
1st true heading is 100°, drift Is 4°R.
2nd true heading Is 200°, drift Is 0°.
Find wind direction and velocity.
a) 020˚, 10 mph
b) 200°, 10 mph
c) 010˚, 20 mph
d) 190˚, 20 mph

29. If an aircraft departs an airport with a field elevation of 2,215 feet, and climbs to a cruise altitude of 8,433 feet with an average climb rate of 612 feet per minute, how long will it take to reach the cruise altitude?
a) 11.3 minutes
b) 7.9 minutes
c) 10.2 minutes
d) 14.1 minutes

30. You are directly flying from airport A to airport B, a distance of 138 statute miles with a magnetic course of 263°. Holding a constant heading, you note you are 4 miles north of course after flying 44 sm. What heading correction is needed to fly directly to B, assuming a constant wind?
a) 258˚
b) 272˚
c) 261˚
d) 255˚

31. You have an average ground speed of 134 knots, and it took you 77 seconds to fly from the outer marker to the middle marker. What is the distance between the two markers?
a) 4.4 nm
b) 1.1 nm
c) 3.3 nm
d) 2.9 nm

32. You need to descend from 9,500 feet to 2,100 feet in 585 seconds. What rate of descent is necessary to meet this requirement?
a) 759 fpm
b) 721 fpm
c) 645 fpm
d) 275 fpm

33. How many pounds does it take to equal 43 kilograms?
a) 196
b) 95
c) 117
d) 103

34. Your cruise altitude is 12,500 feet and the traffic pattern altitude is 975 feet. If the descent rate is 510 feet per minute and the average ground speed is 118 mph, the time to descend will be?
a) 23 minutes
b) 20 minutes
c) 32 minutes
d) 26 minutes

35. Refer to problem no. 34, how far out from the airport should the descent begin?
a) 28 sm
b) 52 sm
c) 58 sm
d) 44 sm

36. Your clearance requires a minimum rate of climb of 267 feet per nautical mile from 1,500 feet to 11,000 feet. You calculate that your aircraft can maintain a climb rate of 720 feet per minute. This will be enough to meet the climb gradient as long as your groundspeed does not exceed………………….

_____mph (whole number)

37. On a cross-country flight, you discover by pilotage that you are 4 nm off course. The VOR also confirms that you are 5˚ off course. What is the distance flown?

_____sm (whole number)

38. You are landing on RWY16 with a wind from 030˚ at 23 knots. What are the headwind/tailwind and the crosswind components?

_____ kts

39. You want to fly a radius of action problem with the following conditions: ground speed out will be 161 mph, and the ground speed back will be 127 mph. You have a total of 62 gallons of fuel on board, and the aircraft burns 12.1 gallons per hour. Determine the distance out.

_____ sm

40. The distance from airport A to airport B is 175 nautical miles. You have flown 102 nautical miles and notice the VOR indicates you are 9.5° right of course. You want to intercept the original course 22.5 nautical miles short of the destination. The original magnetic heading was 010° the new magnetic heading will be?

_____ (tenths)