George Mason University Private Pilot Aviation Weather Test

Ref: See < faa.gov/Pilots Handbook of Aeronautical Knowledge >
(Chp. 11 Weather Theory, Chp. 12 Weather Services)
Ref: See Figures below.

1. PLT518 PVT
A pilot can expect a wind-shear zone in a temperature inversion whenever the windspeed at 2,000 to 4,000 feet above the surface is at least
A) 10 knots.
B) 15 knots.
C) 25 knots.

2. PLT165 PVT
What causes variations in altimeter settings between weather reporting points?
A) Unequal heating of the Earth's surface.
B) Variation of terrain elevation.
C) Coriolis force.

3). PLT495 PVT
During the life cycle of a thunderstorm, which stage is characterized predominately by downdrafts?
A) Cumulus.
B) Dissipating.
C) Mature

4. PLT511 PVT
One of the most easily recognized discontinuities across a front is
A) a change in temperature.
B) an increase in cloud coverage.
C) an increase in relative humidity.

5. PLT492 PVT
What feature is associated with a temperature inversion?
A) A stable layer of air.
B) An unstable layer of air.
C) Chinook winds on mountain slopes.

6. PLT516 PVT
Convective circulation patterns associated with sea breezes are caused by
A) warm, dense air moving inland from over the water.
B) water absorbing and radiating heat faster than the land.
C) cool, dense air moving inland from over the water.

7. PLT134 PVT
How will frost on the wings of an airplane affect takeoff performance?
A) Frost will disrupt the smooth flow of air over the wing, adversely affecting its lifting capability.
B) Frost will change the camber of the wing, increasing its lifting capability.
C) Frost will cause the airplane to become airborne with a higher angle of attack, decreasing the stall speed.

8. PLT192 PVT
The suffix 'nimbus,' used in naming clouds, means
A) a cloud with extensive vertical development.
B) a rain cloud.
C) a middle cloud containing ice pellets.

9. PLT493 PVT
Which conditions result in the formation of frost?
A) The temperature of the collecting surface is at or below freezing when small droplets of moisture fall on the surface.
B) The temperature of the collecting surface is at or below the dewpoint of the adjacent air and the dewpoint is below freezing.
C) The temperature of the surrounding air is at or below freezing when small drops of moisture fall on the collecting surface.

10. PLT512 PVT
What is the approximate base of the cumulus clouds if the surface air temperature at 1,000 feet MSL is 70 °F and the dewpoint is 48 °F?
A) 4,000 feet MSL.
B) 5,000 feet MSL.
C) 6,000 feet MSL.

11. PLT026 PVT
For aviation purposes, ceiling is defined as the height above the Earth's surface of the
A) lowest reported obscuration and the highest layer of clouds reported as overcast.
B) lowest broken or overcast layer or vertical visibility into an obscuration.
C) lowest layer of clouds reported as scattered, broken, or thin.

12. PLT061 PVT
(Refer to figure 14.) If the terrain elevation is 1,295 feet MSL, what is the height above ground level of the base of the ceiling?
A) 505 feet AGL.
B) 1,295 feet AGL
C) 6,586 feet AGL.

13. PLT068 PVT
(Refer to figure 20.) What weather is forecast for the Florida area just ahead of the stationary front during the first 12 hours?
A) Ceiling 1,000 to 3,000 feet and/or visibility 3 to 5 miles with continuous precipitation.
B) Ceiling 1,000 to 3,000 feet and/or visibility 3 to 5 miles with intermittent percipitation.
C) Ceiling less than 1,000 feet and/or visibility less than 3 miles with continuous precipitation.

14. PLT076 PVT
(Refer to figure 17.) What wind is forecast for STL at 9,000 feet?
A) 230° true at 32 knots.
B) 230° true at 25 knots.
C) 230° magnetic at 25 knots.

15. PLT081 PVT
(Refer to figure 16.) What sky conditon and visibility are forecast for upper Michigan in the eastern portions after 2300Z?
A) Ceiling 1,000 feet overcast and 3 to 5 statute miles visibility.
B) Ceiling 1,000 feet overcast and 3 to 5 nautical miles visibility.
C) Ceiling 100 feet overcast and 3 to 5 statute miles visibility.

16. PLT290 PVT
What is indicated when a current CONVECTIVE SIGMET forecasts thunderstorms?
A) Moderate thunderstorms covering 30 percent of the area.
B) Moderate or severe turbulence.
C) Thunderstorms obscured by massive cloud layers.

17. PLT289 PVT
(Refer to figure 18.) Of what value is the Weather Depiction Chart to the pilot?
A) For determining general weather conditions on which to base flight planning.
B) For a forecast of cloud coverage, visibilities, and frontal activity.
C) For determining frontal trends and air mass characteristics.

18. PLT514 PVT
To best determine general forecast weather conditions over several states, the pilot should refer to
A) Aviation Area Forecasts.
B) Weather Depiction Charts.
C) Satellite Maps.

19. PLT445 PVT
What should pilots state initially when telephoning a weather briefing facility for preflight weather information?
A) Tell the number of occupants on board.

B) Identify themselves as pilots.
C) State their total flight time.

20. PLT445 PVT
What should pilots state initially when telephoning a weather briefing facility for preflight weather
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UA/OV KOKC-KTUL/TM 1800/FL120/TP BE90//SK BKN018-TOP055/OVC072-TOP089/CLR ABV/TA M7/WV 08021/TB LGT 055-072/IC LGT-MOD RIME 072-089

Fig. 14

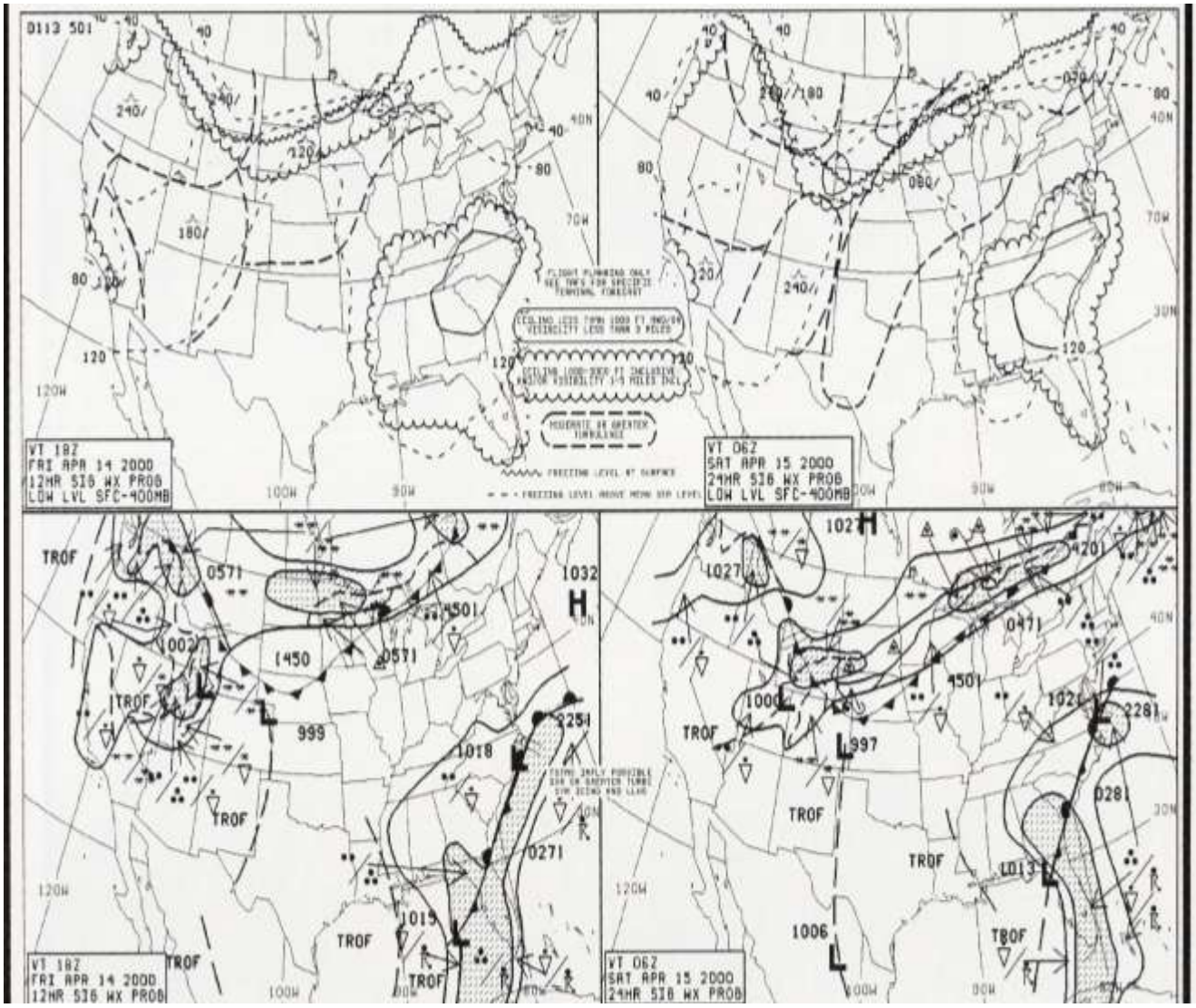

Fig. 20

FD WBC 151745
DATA BASED ON 151200Z
VALID 1600Z FOR USE 1800-0300Z. TEMPS NEG ABV 24000

FT	3000	6000	9000	12000	18000	24000	30000	34000	39000
ALS			2420	2635-08	2535-18	2444-30	245945	246755	246862
AMA		2714	2725+00	2625-04	2531-15	2542-27	265842	256352	256762
DEN			2321-04	2532-08	2434-19	2441-31	235347	236056	236262
HLC		1707-01	2113-03	2219-07	2330-17	2435-30	244145	244854	245561
MKC	0507	2006+03	2215-01	2322-06	2338-17	2348-29	236143	237252	238160
STL	2113	2325+07	2332+02	2339-04	2356-16	2373-27	239440	730649	731960

Fig. 17

BOSC FA 241845
SYNOPSIS AND VFR CLDS/WX
SYNOPSIS VALID UNTIL 251300
CLDS/WX VALID UNTIL 250700...OTLK VALID 250700-251300
ME NH VT MA RI CT NY LO NJ PA OH LE WV MD DC DE VA AND CSTL WTRS
.
SEE AIRMET SIERRA FOR IFR CONDS AND MTN OBSCN.
TS IMPLY SEV OR GTR TURB SEV ICE LLWS AND IFR CONDS.
NON MSL HGTS DENOTED BY AGL OR CIG.
.
SYNOPSIS...19Z CDFNT ALG A 160NE ACK-ENE LN...CONTG AS A QSTNRY
FNT ALG AN END-50SW MSS LN. BY 13Z...CDFNT ALG A 140ESE ACK-HTO
LN...CONTG AS A QSTNRY FNT ALG A HTO-SYR-YYZ LN. TROF ACRS CNTRL
PA INTO NRN VA. ...REYNOLDS...
.
OH LE
NRN HLF OH LE...SCT-BKN025 OVC045. CLDS LYRD 150. SCT SHRA. WDLY
SCT TSRA. CB TOPS FL350. 23-01Z OVC020-030. VIS 3SM BR. OCNL -
RA. OTLK...IFR CIG BR FG.
SWRN QTR OH...BKN050-060 TOPS 100. OTLK...MVFR BR.
SERN QTR OH...SCT-BKN040 BKN070 TOPS 120. WDLY SCT -TSRA. 00Z
SCT-BKN030 OVC050. WDLY SCT -TSRA. CB TOPS FL350. OTLK...VFR
SHRA.
.
CHIC FA 241945
SYNOPSIS AND VFR CLDS/WX
SYNOPSIS VALID UNTIL 251400
CLDS/WX VALID UNTIL 250800...OTLK VALID 250800-251400
ND SD NE KS MN IA MO WI LM LS MI LH IL IN KY
.
SEE AIRMET SIERRA FOR IFR CONDS AND MTN OBSCN.
TS IMPLY SEV OR GTR TURB SEV ICE LLWS AND IFR CONDS.
NON MSL HGTS DENOTED BY AGL OR CIG.
.
SYNOPSIS...LOW PRES AREA 20Z CNTRD OVR SERN WI FCST MOV NEWD INTO
LH BY 12Z AND WKN. LOW PRES FCST DEEPEN OVR ERN CO DURG PD AND
MOV NR WRN KS BORDER BY 14Z. DVLPG CDFNT WL MOV EWD INTO S CNTRL
NE-CNTRL KS BY 14Z. ..SMITH..
.
UPR MI LS
WRN PTNS...AGL SCT030 SCT-BKN050. TOPS 080. 02-05Z BECMG CIG
OVC010 VIS 3-5SM BR. OTLK...IFR CIG BR.
ERN PTNS...CIG BKN020 OVC040. OCNL VIS 3-5SM -RA BR. TOPS FL200.
23Z CIG OVC010 VIS 3-5SM -RA BR. OTLK...IFR CIG BR.
.
LWR MI LM LH
CNTRL/NRN PTNS...CIG OVC010 VIS 3-5SM -RA BR. TOPS FL200.
OTLK...IFR CIG BR.
.
SRN THIRD...CIG OVC015-025. SCT -SHRA. TOPS 150. 00-02Z BECMG CIG
OVC010 VIS 3-5SM BR. TOPS 060. OTLK...IFR CIG BR.
.
IN
NRN HALF...CIG BKN035 BKN080. TOPS FL200. SCT -SHRA. 00Z CIG
BKN-SCT040 BKN-SCT080. TOPS 120. 06Z AGL SCT-BKN030. TOPS 080.
OCNL VIS 3-5SM BR. OTLK...MVFR CIG BR.
SRN HALF...AGL SCT050 SCT-BKN100. TOPS 120. 07Z AGL SCT 030
SCT100. OTLK...VFR

Fig. 16

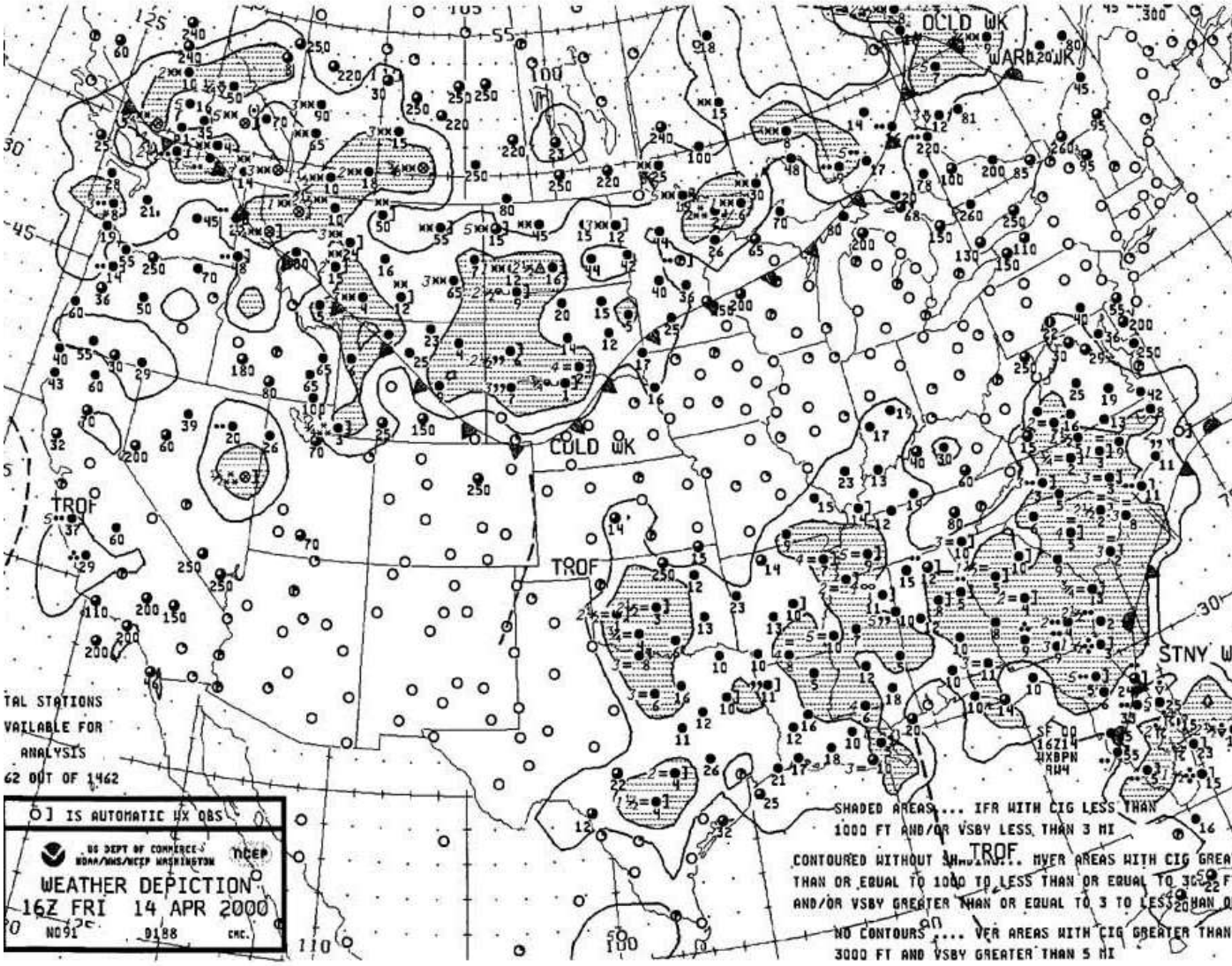

Fig. 18

STUDENT ANSWER SHEET: (Circle the correct answer)

1) (A) (B) (C)

2) (A) (B) (C)

3) (A) (B) (C)

4) **(A)** **(B)** **(C)**

5) **(A)** **(B)** **(C)**

6) **(A)** **(B)** **(C)**

7) **(A)** **(B)** **(C)**

8) **(A)** **(B)** **(C)**

9) **(A)** **(B)** **(C)**

10) **(A)** **(B)** **(C)**

11) **(A)** **(B)** **(C)**

12) **(A)** **(B)** **(C)**

13) **(A)** **(B)** **(C)**

14) **(A)** **(B)** **(C)**

15) **(A)** **(B)** **(C)**

16) **(A)** **(B)** **(C)**

17) **(A)** **(B)** **(C)**

18) **(A)** **(B)** **(C)**

19) **(A)** **(B)** **(C)**

20) **(A)** **(B)** **(C)**