Quiz
3/9/2026:

Weather Products

Question 1

(Refer to figure 15.)

What is the valid period for the TAF for KMEM?

1800Z on the 12th to 2400Z on the 13th (6 hours)

1800Z on the 12th to 2400Z on the 13th (30 hours)

1800Z on the 12th to 1800Z on the 13th (24 hours)

TAF

KMEM 121720Z 1218/1324 20012KT 5SM HZ BKN030 PROB40 1220/1222 1SM TSRA OVC008CB
FM122200 33015G20KT P6SM BKN015 OVC025 PROB40 1220/1222 3SM SHRA
FM130200 35012KT OVC008 PROB40 1302/1305 2SM-RASN BECMG 1306/1308 02008KT BKN012
BECMG 1310/1312 00000KT 3SM BR SKC TEMPO 1312/1314 1/2SM FG
FM131600 VRB06KT P6SM SKC=

KOKC 051130Z 0512/0618 14008KT 5SM BR BKN030 TEMPO 0513/0516 1 1/2SM BR
FM051600 18010KT P6SM SKC BECMG 0522/0524 20013G20KT 4SM SHRA OVC020
PROB40 0600/0606 2SM TSRA OVC008CB BECMG 0606/0608 21015KT P6SM SCT040=

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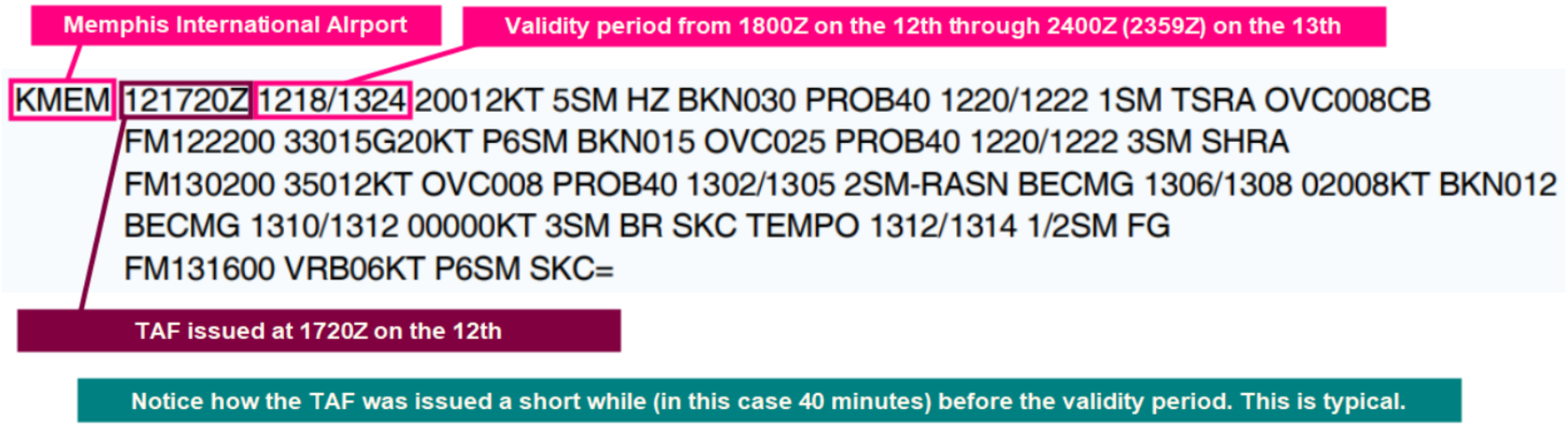
Question 1

VALID PERIOD - This is an 8-digit group (2 groups of 4 digits separated by a slash) which gives the valid period, usually 24 hours, of the forecast in UTC. In the case of an amended forecast, or a forecast which is corrected or delayed, the valid period may be for less than 24 hours. Where an airport or terminal operates on a part time basis (less than 24 hours/day), the TAFs issued for those locations will have the abbreviated statement "AMD NOT SKED AFT (closing time) UTC" added to their forecasts. For the TAFs issued while these locations are closed, the word "NIL" will appear in place of the forecast text. A delayed (RTD) forecast will then be issued for these locations after two complete observations are received.



Question 2

(Refer to figure 7A.)

Determine the wind and temperature aloft forecast for DEN at 9,000 feet.

230° true at 53 knots, temperature -47 °C.

230° magnetic at 53 knots, temperature 47 °C.

230° true at 21 knots, temperature -4 °C.

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+7	2332+02	2339-04	2356-16	2373-27	239440	730649	731960

Question 2

(Refer to figure 7A.)

Determine the wind and temperature aloft forecast for DEN at 9,000 feet.

M+

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A 4-digit group shows wind direction, in reference to true north, and wind speed. Look at the St. Louis (STL) forecast for 3,000 feet. The group 2113 means the wind is from 210 degrees at 13 knots. The first two digits give direction in tens of degrees and the second two digits are the wind speed in knots.

A 6-digit group includes forecast temperatures. In the STL forecast, the coded group for 9,000 feet is 2332+02. The wind is from 230 degrees at 32 knots and the temperature is plus 2 degrees Celsius. If a coded direction is more than "36," then the wind speed is 100 knots or more. Therefore, if the wind direction number is between 51 and 86, the wind speed will be over 100 knots. For example, the STL forecast for 39,000 feet is "731960." The wind direction is from 230 degrees (73-50=23) and the speed is 119 knots (100+19= 119). The temperature is minus 60 degrees Celsius.

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Question 3

AIRMETs are advisories of significant weather phenomena but of lower intensities than SIGMETs and are intended for dissemination to

- **All pilots**
- **only VFR pilots.**
- **only IFR pilots.**

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AIRMET

An **AIRMET**, or **Airman's Meteorological Information**, is a concise description of the occurrence or expected occurrence of specified en-route weather phenomena which may affect the safety of aircraft operations, but at intensities lower than those which require the issuance of a SIGMET.

Compared to SIGMETs, AIRMETs cover less severe weather: moderate turbulence and icing, surface winds of 30 knots, or widespread restricted visibility. AIRMETs are broadcast on the ATIS at ATC facilities and are referred to as Weather Advisories. AIRMETs are valid for six hours. NOTE: The definition of an AIRMET has at one point changed and no longer says "light aircraft". **AIRMETs are intended for ALL aircraft.**

Sierra	Describes **IFR conditions and/or extensive mountain obscurations.** Think: "Sierra Mountain Obscuration."
Tango	Describes **moderate turbulence**, sustained surface winds of 30 knots or greater, and/or nonconvective low-level wind shear. Think: "Tango Turbulence."
Zulu	Describes **moderate icing** and provides freezing level heights. Think "Freezing Temperatures Below Zulu."

Question 4

What will a convective SIGMET be issued for?

- Squall line thunderstorms.
- Visibility less than 3 miles.
- Surface winds greater than 40 knots.

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Question 4

AC 00-45, section 4 states:

> Convective SIGMETs are issued in the conterminous U.S. for any of the following:
>
> 1. Severe thunderstorm due to:
>   a. surface winds greater than or equal to 50 knots
>   b. hail at the surface greater than or equal 3/4 inches in diameter
>   c. tornadoes.
> 2. Embedded thunderstorms.
> 3. **A line of thunderstorms.**
> 4. Thunderstorms greater than or equal to VIP level 4 affecting 40% or more of an area at least 3000 square miles.
>
> Any Convective SIGMET implies severe or greater turbulence, severe icing and low level wind shear. A Convective SIGMET may be issued for any convective situation which the forecaster feels is hazardous to all categories of aircraft.

Question 5

For aviation purposes, ceiling is defined as the height above the Earth's surface of the

- lowest reported obscuration and the highest layer of clouds reported as overcast.
- lowest layer of clouds or obscuring phenomena reported as broken, overcast, and not classified as thin or partial.
- lowest layer of clouds reported as scattered, broken, or thin.

Question 5

For aviation purposes, ceiling is defined as the height above the Earth's surface of the

lowest reported obscuration and the highest layer of clouds reported as overcast.

lowest layer of clouds or obscuring phenomena reported as broken, overcast, and not classified as thin or partial.

lowest layer of clouds reported as scattered, broken, or thin.

Question 5

The key here is that ceilings are defined as the lowest broken or overcast layer--NOT scattered. The "vertical visibility into an obscuration" phrase is a relatively recent addition to this question and reflects new FAA definitions, but the key point of this question is to understand that a "ceiling" is the lowest **broken or overcast layer**.