

Weather

Dr. Su Zhang

1. You have received an outlook briefing from flight service through 1800wxbrief.com. The briefing indicates you can expect a low-level temperature inversion with high relative humidity. What weather conditions would you expect?

- a. Smooth air, poor visibility, fog, haze, or low clouds.
- b. Light wind shear, poor visibility, haze, and light rain.
- c. Turbulent air, poor visibility, fog, low stratus type clouds, and showery precipitation.

2. What effect does high density altitude have on the efficiency of a UA propeller?

a. Propeller efficiency is increased.

b. Propeller efficiency is decreased.

c. Density altitude does not affect propeller efficiency.

3. (Refer to FAA-CT-8080-2G, Figure 12.) What are the current conditions for Chicago Midway Airport (KMDW)?

- a. Sky 700 feet overcast, visibility 1-1/2SM, rain.
- b. Sky 7000 feet overcast, visibility 1-1/2SM, heavy rain.
- c. Sky 700 feet overcast, visibility 11, occasionally 2SM, with rain.

4. The cumulus stage of thunderstorms occurs:

- a. When the lifting action of the air begins.
- b. Within approximately 15 minutes, when the thunderstorm reaches the most violent part of its life cycle.
- c. Once the vertical motion near the top of the cloud slows and the top of the cloud spreads out.

5. (Refer to FAA-CT-8080-2G, Figure 12.) The wind direction and velocity at KMDW (Chicago Midway International) is from

- a. 320 True at 5 knots
- b. 5 True at 32 knots
- c. 320 Mag at 50 knots

6. (Refer to FAA-CT-8080-2G, Figure 15.)
When was the TAF for KMEM prepared?

- a. 12th day of the month at 17:20 UTC
- b. Dec 17 at 20:00 UTC
- c. 20th of month at 12:17 GMT

7. (Refer to FAA-CT-8080-2G, Figure 12.) The wind direction and velocity at KJFK is from

- a. 180° true at 4 knots.
- b. 180° magnetic at 4 knots.
- c. 040° true at 18 knots.

8. Convective currents

- a. Develop as a result of uneven heating of the ground surface
- b. Occur at greater than 500' AGL so are of little concern to sUAS pilots
- c. Are the strong downdrafts at the front of thunderstorms

9. Aviation Area Forecast Report (FA)

- a. Provides short-term specific weather conditions for a specific airport specified in the report
- b. Provides visibility information in Nautical Miles
- c. Is valid for 18 hours (12-hour forecast, plus 6-hour categorical outlook)

10. Terminal Aerodrome Forecasts (TAF)

- a. Is updated every 12 hours
- b. Is established for a 5 statute mile radius around an airport
- c. Is valid for 6 hours