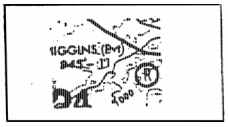
NAVIGATION

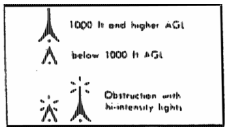
Note: Asterisks at the end of a statement indicate information given on the Sectional Chart legend, in the appendix at the end of this course summary, and also in the exam book on the FAA test.

Flag symbol is used as a visual checkpoint to identify position for initial callup.*

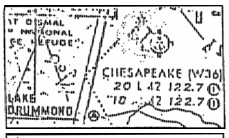
Terrain elevation shown by contour shading on Sectional Chart, with contour lines.*



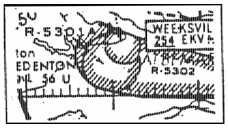
Obstructions are shown as either above or below 1000 AGL*



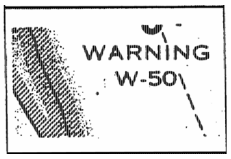
Airport data shows tower frequency, elevation, lighting, runway length and Unicorn frequency.*



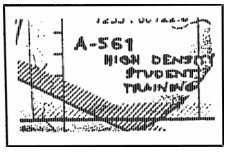
Restricted areas may be entered only with the controlling agency's authorization.



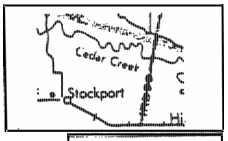
Warning areas contain unusual, often invisible hazards such as aerial gunnery or guided missiles over international waters.



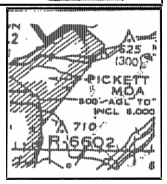
Alert areas are areas of high volume training activity. All pilots, without exception, are responsible for collision avoidance.



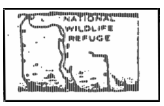
Military training routes such as IR-644 contain military training flights above 1500 ft. AGL at speeds in excess of 250 knots.



Military Operation Areas (MOA) pose no restriction to VFR flight. Just exercise extreme caution when military activity is being conducted. Contact FSS for advisories.



You are requested to maintain at least 2000 AGL over National Wildlife Refuges.



VOR (VHF Omnidirectional Range)

All radio aids are oriented to magnetic direction.

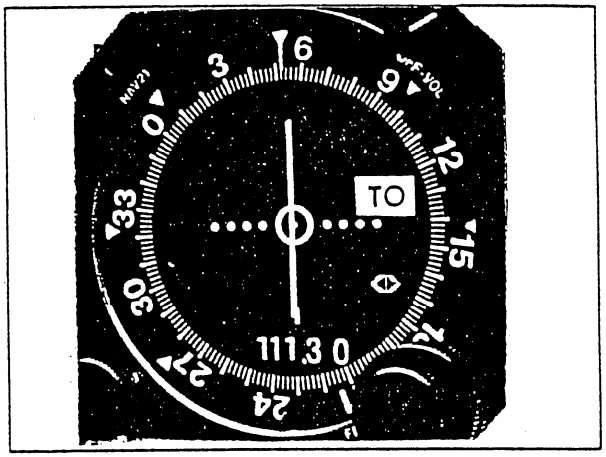
A radial is a magnetic ~bearing from a station, or the direction you must fly to go away from the station.

The VOR receiver allows you to fly inbound TO a VOR station, or fly outbound FROM a station, or determine where you are located relative to the station.

Components:

Omnibearing selector (OBS) enables you to select the course you wish to fly. This selector should always agree with your course or heading. If reading a VOR indicator, imagine your aircraft on the same heading as the OBS.

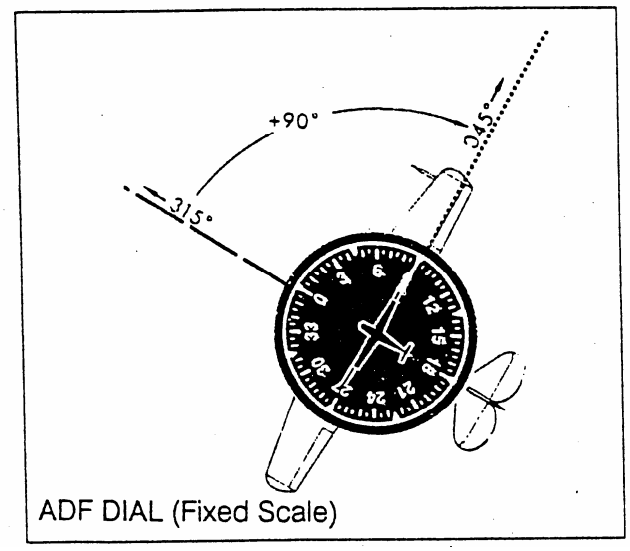
TO-FROM flag tells you, if flying the course selected, if you are getting closer TO or farther FROM the station.



LEFT-RIGHT needle tells you, if flying the course selected, to turn right or left to center the needle and. put you on course.

To test the VOR, tune to a VOR test frequency (VOT). The LEFT-RIGHT needle should center with OBS of 380, and FROM flag, and OBS of 180, and TO flag.

ADF (Automatic Direction Finder)



MH (magnetic heading) + RB (relative bearing)
= MBto (magnetic bearing to the station).
315 + 090 = 405, or 045 degrees.

Relative bearing is the angle (clockwise) from the nose of the airplane to the station. On a fixed scale ADF dial, it is indicated by the needle. On an RMI (ADF indication combined with aircraft heading information), it is determined by the. degrees clockwise from the nose of the airplane to the needle.

Magnetic heading is the angle between magnetic north and the nose of the airplane. On an RMI, magnetic heading is indicated by the triangle on the top of the instrument.

Magnetic bearing to the station is the direction you must travel to fly to the station. On a fixed scale ADF. it is computed by adding the magnetic heading to the relative bearing. On an RMI; it is indicated by the needle.

Magnetic bearing from the station is the reciprocal (opposite direction-180° different) of the magnetic bearing to the station, On an RMI, it is indicated by the tail of the needle.

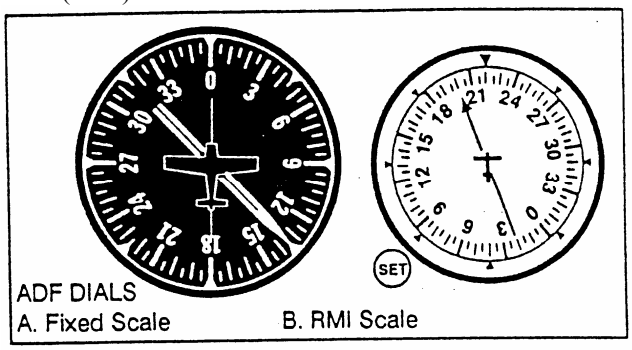
GLOBAL POSITIONING SYSTEM (GPS)

There are 24 Global Positioning satellites.

A minimum of 5 GPS satellites are always observable.

It takes 4 GPS satellites to yield a three dimensional position (latitude, longitude, altitude).

ADF (Cont)



Assume airplane A on a 090 magnetic heading.
A. RB (135) + MH (090) = MBto (225)
B. RB (340) + MH (220) = MBto (200)

3529. H983
(Refer to figure 21.) En route to First Flight Airport (area 5), your flight passes over Hampton Roads Airport (area 2) at 1456 and then over Chesapeake Municipal at 1501. At what time should your flight arrive at First Flight?
A) 1516.
B) 1521.
C) 1526.

3530. H981
(Refer to figure 21, area 3.) Determine the approximate latitude and longitude of Currituck County Airport.
A) 36°24'N - 76°01'W.
B) 36°48'N - 76°01'W.
C) 47°24'N - 75°58'W.

3531. H987
(Refer to figure 21.) Determine the magnetic course from First Flight Airport (area 5) to Hampton Roads Airport (area 2).
A) 141°.
B) 321°.
C) 331°.

3532. H989
(Refer to figure 21.) What is your approximate position on low altitude airway Victor 1, southwest of Norfolk (area 1), if the VOR receiver indicates you are on the 340° radial of Elizabeth City VOR (area 3)?
A) 15 nautical miles from Norfolk VORTAC.
B) 18 nautical miles from Norfolk VORTAC.
C) 23 nautical miles from Norfolk VORTAC.
NOTE: CORRECT ANSWER IS IN BOLD ITALICS

3533. H989
(Refer to figure 21, area 3; and figure 29.) The VOR is tuned to Elizabeth City VOR, and the aircraft is positioned over Shawboro. Which VOR indication is correct?
A) 2.
B) 5.
C) 9.

3534. H983
(Refer to figure 22.) What is the estimated time en route from Mercer County Regional Airport (area 3) to Minot International (area 1)? The wind is from 330° at 25 knots and the true airspeed is 100 knots. Add 3-1/2 minutes for departure and climb-out.
A) 44 minutes.
B) 48 minutes.
C) 52 minutes.

3535. H981
(Refer to figure 22, area 2.) Which airport is located at approximately 47° 39 minutes 30 seconds N latitude and 100° 53 minutes 00 seconds W longitude?
A) Linrud.
B) Crooked Lake.
C) Johnson.

3538. H987
(Refer to figure 22.) Determine the magnetic heading for a flight from Mercer County Regional Airport (area 3) to Minot International (area 1). The wind is from 330° at 25 knots, the true airspeed is 100 knots, and the magnetic variation is 10° east.
A) 002°.
B) 012°.
C) 352°.

3539. H989
(Refer to figure 22.) What course should be selected on the omnibearing selector (OBS) to make a direct flight from Mercer County Regional Airport (area 3) to the Minot VORTAC (area 1) with a TO indication?
A) 359°.
B) 179°.
C) 001°.

3540. H987
(Refer to figure 23.) What is the estimated time en route from Sandpoint Airport (area 1) to St. Maries Airport (area 4)? The wind is from 215° at 25 knots, and the true airspeed is 125 knots.
A) 30 minutes.
B) 34 minutes.
C) 38 minutes.

3541. H987
(Refer to figure 23.) Determine the estimated time en route for a flight from Priest River Airport (area 1) to Shoshone County Airport (area 3). The wind is from 030 at 12 knots and the true airspeed is 95 knots. Add 2 minutes for climb-out.
A) 29 minutes.
B) 27 minutes.
C) 31 minutes.

3542. H987
(Refer to figure 23.) What is the estimated time en route for a flight from St. Maries Airport (area 4) to Priest River Airport (area 1)? The wind is from 300° at 14 knots and the true airspeed is 90 knots. Add 3 minutes for climb-out.
A) 38 minutes.
B) 43 minutes.
C) 48 minutes.

3546. H987
(Refer to figure 23.) What is the magnetic heading for a flight from Priest River Airport (area 1) to Shoshone County Airport (area 3)? The wind is from 030° at 12 knots, and the true airspeed is 95 knots.
A) 118°.
B) 143°.
C) 136°.

3547. H983
(Refer to figure 23.) Determine the magnetic heading for a flight from St. Maries Airport (area 4) to Priest River Airport (area 1). The wind is from 340° at 10 knots, and the true airspeed is 90 knots.
A) 345°.
B) 320°.
C) 327°.

3548. H983
(Refer to figure 24.) What is the estimated time en route for a flight from Allendale County Airport (area 1) to Claxton-Evans County Airport (area 2)? The wind is from 100° at 18 knots and the true airspeed is 115 knots. Add 2 minutes for climb-out.
A) 27 minutes.
B) 30 minutes.
C) 33 minutes.

3549. H983
(Refer to figure 24.) What is the estimated time en route for a flight from Claxton-Evans County Airport (area 2) to Hampton Varnville Airport (area 1)? The wind is from 290° at 18 knots and the true airspeed is 85 knots. Add 2 minutes for climb-out.
A) 35 minutes.
B) 39 minutes.
C) 44 minutes.

NOTE: CORRECT ANSWER IS IN BOLD ITALICS

3550. H983
(Refer to figure 24.) Determine the magnetic heading for a flight from Allendale County Airport (area 1) to Claxton-Evans County Airport (area 2). The wind is from 090° at 16 knots and the true airspeed is 90 knots.
A) 208°
B) 230°
C) 212°

3551. H983
(Refer to figure 24.) Determine the compass heading for a flight from Claxton-Evan County Airport (area 2) to Hampton Varnville Airport (area 1). The wind is from 280° at 08 knots and the true airspeed is 85 knots.
A) 033°
B) 042°
C) 038°

3552. H987
(Refer to figure 24.) What is the approximate position of the aircraft if the VOR receivers indicate the 320° radial of Savannah VORTAC (area 3) and the 184° radial of Allendale VOR (area 1)?
A) Town of Guyton.
B) Town of Springfield.
C) 3 miles east of Marlow.

3553. H989
(Refer to figure 24.) On what course should the VOR receiver (OBS) be set to navigate direct from Hampton Varnville Airport (area 1) to Savannah VORTAC (area 3)?
A) 003°.
B) 183°.
C) 200°.

3554. H983
(Refer to figure 24.) While en route on Victor 185, a flight crosses the 248° radial of Allendale VOR at 0953 and then crosses the 216° radial of Allendale VOR at 1000. What is the estimated time of arrival at Savannah VORTAC?
A) 1023.
B) 1028.
C) 1036.

3556. H987
(Refer to figure 25). Determine the magnetic course from Airpark East Airport (area 1) to Winnsboro Airport (area 2). Magnetic variation is 6°30'E.
A) 075°.
B) 082°.
C) 091°.

3560. H989
(Refer to figure 25.) On what course should the VOR receiver (OBS) be set in order to navigate direct from Majors Airport (area 1) to Quitman VORTAC (area 2)?
A) 101°.
B) 108°.
C) 281°.

3561. H989
(Refer to figure 25, and figure 29.) The VOR is tuned to Bonham VORTAC (area 3), and the aircraft is positioned over the town of Sulphur Springs (area 5). Which VOR indication is correct?
A) 1.
B) 7.
C) 8.

3562. H983
(Refer to figure 26.) What is the estimated time en route for a flight from Denton Muni (area 1) to Addison (area 2)? The wind is from 200° at 20 knots, the true airspeed is 110 knots, and the magnetic variation is 7° east.
A) 13 minutes.
B) 16 minutes.
C) 19 minutes.

3563.
(Refer to figure 26.) Estimate the time enroute from Addison (area 2) to Redbird (area 3). The wind is from 300° at 15 knots, the true airspeed is 120 knots, and the magnetic variation is 7° east.
A) 8 minutes.
B) 11 minutes.
C) 14 minutes.

3565. H983
(Refer to figure 26.) Determine the magnetic heading for a flight from Fort Worth Meacham (area 4) to Denton Muni (area 1). The wind is from 330° at 25 knots, the true airspeed is 110 knots, and the magnetic variation is 7° east.
A) 003°.
B) 017°.
C) 023°.

3566. H989
(Refer to figure 26, area 5.) The VOR is tuned to the Dallas/Fort Worth VORTAC. The omnibearing selector (OBS) is set on 253°, with a TO indication, and a right course deviation indicator (CDI) deflection. What is the aircraft's position from the VORTAC.
A) East-northeast
B) North-northeast
C) West-southwest

NOTE: CORRECT ANSWER IS IN BOLD ITALICS

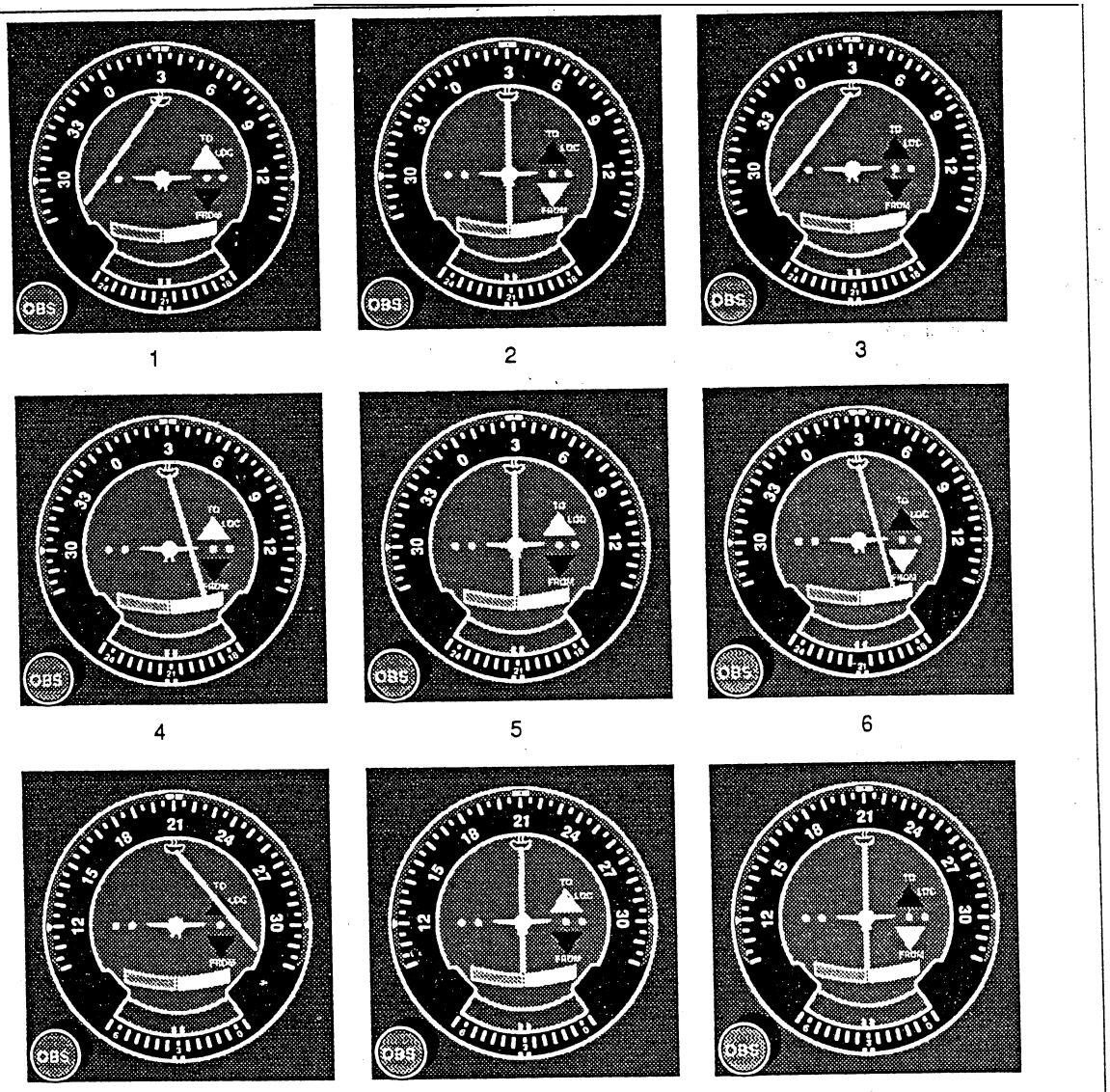


Figure 29 - VOR

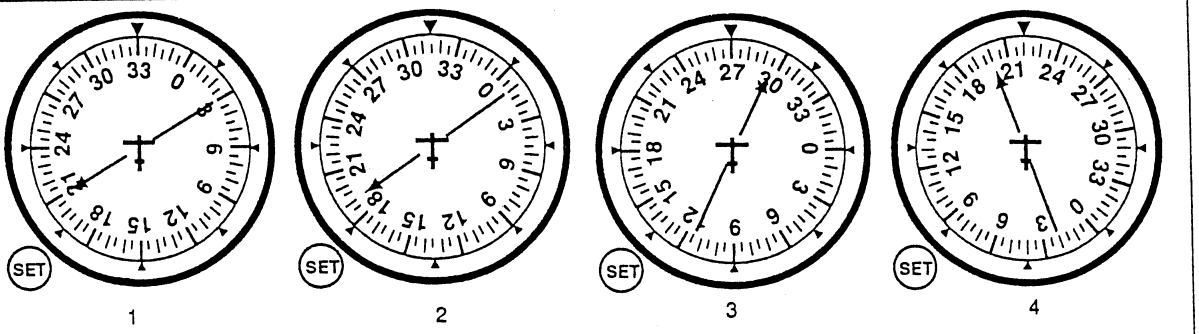


Figure 30 - ADF (Movable Card)

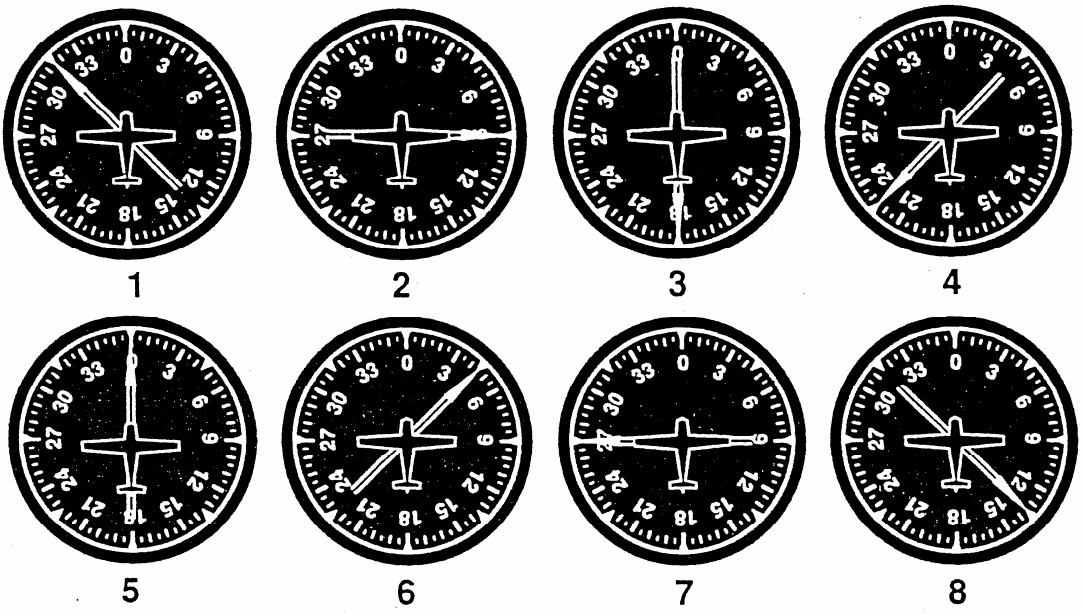


Figure 31 - ADF (Fixed Card)

3567. H983
(Refer to figure 27, area 2.) What is the approximated latitude and longitude of Cooperstown Airport?
A) 47°25'N - 98°06'W.
B) 47°25'N - 99°54'W.
C) 47°55'N - 98°06'W.

3568. H987
(Refer to figure 27.) Determine the magnetic course from Breckheimer (Pvt) Airport (area 1) to Jamestown Airport (area 4).
A) 013°.
B) 021°.
C) 180°.

3570. H989
(Refer to figure 27, area 4 and 3; and figure 29.) The VOR is tuned to Jamestown VOR, and the aircraft is positioned over the town of Wimbledon. Which VOR indication is correct?
A) 1.
B) 4.
C) 6.

3577.
(Refer to figure 29, illustration 1.) The VOR receiver has the indications shown. What is the aircraft's position relative to the station?
A) North.
B) East.
C) South.

3578. H989
(Refer to figure 29, illustration 3.) The VOR receiver has the indications shown. What is the aircraft's position relative to the station?
A) East.
B) Southeast.
C) West.

3579. H989
(Refer to figure 29, illustration 8.) The VOR receiver has the indications shown. What radial is the aircraft crossing?
A) 030°.
B) 210°.
C) 300°.

3580. H989
(Refer to figure 30, illustration 1.) Determine the magnetic bearing TO the station.
A) 030°.
B) 180°.
C) 210°.

3581. H989
(Refer to figure 30, illustration 2.) What magnetic bearing should the pilot use to fly TO the station?
A) 010°.
B) 145°.
C) 190°.

3582. H989
(Refer to figure 30, illustration 2.) Determine the approximate heading to intercept the 180° bearing TO the station.
A) 040°.
B) 160°.
C) 220°.

3583. H989
(Refer to figure 30, illustration 3.) What is the magnetic bearing FROM the station?
A) 025°.
B) 115°.
C) 295°.

NOTE: CORRECT ANSWER IS IN BOLD ITALICS

3584. H989
(Refer to figure 30.) Which ADF indication represents the aircraft tracking TO the station with a right crosswind?
A) 1.
B) 2.
C) 4.

3585. H989
(Refer to figure 30, illustration 1.) What outbound bearing is the aircraft crossing?
A) 030°.
B) 150°.
C) 180°.

3586.
(Refer to figure 30, illustration 1.) What is the relative bearing TO the station?
A) 030°.
B) 210°.
C) 240°.

3587.
(Refer to figure 30, illustration 2.) What is the relative bearing TO the station?
A) 190°.
B) 235°.
C) 315°.

3588.
(Refer to figure 30, illustration 4.) What is the relative bearing to the station?
A) 020°.
B) 060°.
C) 340°.

3589. H989
(Refer to figure 31, illustration 1.) The relative bearing TO the station is
A) 045°.
B) 180°.
C) 315°.

3590.
(Refer to figure 31, illustration 2.) The relative bearing TO the station is
A) 090°.
B) 180°.
C) 270°.

3591.
(Refer to figure 31, illustration 3.) The relative bearing TO the station is
A) 090°.
B) 180°.
C) 270°.

NOTE: CORRECT ANSWER IS IN BOLD ITALICS

3592.
(Refer to figure 31, illustration 4.) On a magnetic heading of 320°, the magnetic bearing TO the station is
A) 005°.
B) 185°.
C) 225°

3593.
(Refer to figure 31, illustration 5.) On a magnetic heading of 035°, the magnetic bearing TO the station is
A) 035°.
B) 180°.
C) 215°

3594.
(Refer to figure 31, illustration 6.) On a magnetic heading of 120°, the magnetic bearing TO the station is
A) 045°.
B) 165°.
C) 270°.

3595.
(Refer to figure 31, illustration 6.) If the magnetic bearing TO the station is 240°, the magnetic heading is
A) 045°.
B) 105°.
C) 195°.

3596.
(Refer to figure 31, illustration 7.) If the magnetic bearing TO the station is 030°, the magnetic heading is
A) 060°.
B) 120°.
C) 270°.

3597. H989
(Refer to figure 31, illustration 8.) If the magnetic bearing TO the station is 135°, the magnetic heading is
A) 135°.
B) 270°.
C) 360°.

3598. J01
When the course deviation indicator (CDI) needle is centered during an omnireceiver check using a VOR test signal (VOT), the omnibearing selector (OBS) and the TO/FROM indicator should read
A) 180° FROM, only if the pilot is due north of the VOT.
B) 0° TO or 180° FROM, regardless of the pilot's position from the VOT.
C) 0° FROM or 180° TO, regardless of the pilot's position from the VOT.

3601.
(Refer to figure 21.) What hazards to aircraft may exist in warning areas such as Warning W-50B?
A) Unusual, often visible, hazards such as aerial gunnery or guided missiles over international waters.
B) High volume of pilot training or unusual type of aerial activity.
C) Heavy military aircraft traffic in the approach and departure area of the North Atlantic Control Area.

3602. J09
(Refer to figure 27, area 2.) What hazards to aircraft may exist in areas such as Devils Lake East MOA?
A) Unusual, often invisible, hazards to aircraft such as artillery firing, aerial gunnery, or guided missiles.
B) Military training activities that necessitate acrobatic or abrupt flight maneuvers.
C) High volume of pilot training or an unusual type of aerial activity.

3603. J10
(Refer to figure 22, area 3.) What type military flight operations should a pilot expect along IR 644?
A) IFR training flights above 1,500 feet AGL at speeds in excess of 250 knots.
B) VFR training flights above 1,500 feet AGL at speeds less than 250 knots.
C) Instrument training flights below 1,500 feet AGL at speeds in excess of 150 knots.

3618. J28
(Refer to figure 27, area 3.) When flying over Arrowwood National Wildlife Refuge, a pilot should fly no lower than
A) 2,000 feet AGL.
B) 2,500 feet AGL.
C) 3,000 feet AGL.

3631. J37
(Refer to figure 21, area 5.) The CAUTION box denotes what hazard to aircraft?
A) Unmarked blimp hangers at 300 feet MSL.
B) Unmarked balloon on cable to 3,000 feet AGL.
C) Unmarked balloon on cable to 3,000 feet MSL.

3632. J37
(Refer to figure 21, area 2.) The flag symbol at Lake Drummond represents a
A) compulsory reporting point for Norfolk Class C airspace.
B) compulsory reporting point for Hampton Roads Airport.
C) visual checkpoint used to identify position for initial callup to Norfolk Approach Control.

3633. J37
(Refer to figure 21, area 2.) The elevation of the Chesapeake Regional Airport is
A) 20 feet.
B) 36 feet.
C) 360 feet.

3634. J37
(Refer to figure 22.) The terrain elevation of the light tan area between Minot (area 1) and Audubon Lake (area 2) varies from
A) sea level to 2,000 feet MSL.
B) 2,000 feet to 2,500 feet MSL.
C) 2,000 feet to 2,700 feet MSL.

3635. J37
(Refer to figure 22.) Which public use airports depicted are indicated as having fuel?
A) Minot Intl. (area 1) and Mercer County Regional Airport (area 3).
B) Minot Intl. (area 1) and Garrison (area 2).
C) Mercer County Regional Airport (area 3) and Garrison (area 2).

3636. J37
(Refer to figure 24.) The flag symbols at Statesboro Bullock County Airport, Claxton-Evans County Airport, and Ridgeland Airport are
A) outer boundaries of Savannah Class C airspace.
B) airports with special traffic patterns.
C) visual checkpoints to identify position for initial callup prior to entering Savannah Class C airspace.

3637. J37
(Refer to figure 24, area 3.) What is the height of the lighted obstacle approximately 6 nautical miles southwest of Savannah International?
A) 1,500 feet MSL.
B) 1,531 feet AGL.
C) 1,549 feet MSL.

3638.
(Refer to figure 24, area 3.)
The top of the lighted stack approximately 11nautical miles from the Savannah VORTAC on the 340° radial is
A) 305 feel AGL.
B) 455 feel AGL.
C) 430 feet AGL.

3639.
(Refer to figure 25, area 1.) What minimum altitude is necessary to vertically clear the obstacle on the northeast side of Airpark East Airport by 500 feet?
A) 1,010 feet MSL.
B) 1,273 feet MSL.
C) 1,283 feet MSL.

3640.
(Refer to figure 25, area 2.) What minimum altitude is necessary to vertically clear the obstacle on the southeast side if Winnsboro Airport by 500 feet?
A) 823 feet MSL.
B) 1,013 feel MSL.
C) 1,403 feet MSL.

NOTE: CORRECT ANSWER IS IN BOLD ITALICS

3641. J37
(Refer to figure 26, area 2.) The control tower frequency for Addison Airport is
A) 122.95 MHz.
B) 126.0 MHz.
C) 133.4 MHz.

3642. J37
(Refer to figure 26, area 8.) What minimum altitude is required to fly over the Cedar Hill TV towers in the congested area south of NAS Dallas?
A) 2,555 feet MSL.
B) 3,449 feet MSL.
C) 3,349 feet MSL.

3643. J37
(Refer to figure 26, area 5.) The navigation facility at Dallas-Ft. Worth International (DFW) is a
A) VOR.
B) VORTAC.
C) VOR/DME.

3783. J09
Under what condition, if any, may pilots fly through a restricted area?
A) When flying on airways with an ATC clearance.
B) With the controlling agency's authorization.
C) Regulations do not allow this.

3785. J09
What action should a pilot take when operating under VFR in a Military Operations Area (MOA)?
A) Obtain a clearance from the controlling agency prior to entering the MOA.
B) Operate only on the airways that transverse the MOA.
C) Exercise extreme caution when military activity is being conducted.

3786. J09
Responsibility for collision avoidance in an alert area rests with
A) the controlling agency.
B) all pilots.
C) Air Traffic Control.

--PRACTICE PROBLEMS - ESTIMATED TIME ENROUTE AND FUEL CONSUMPTION.

	TIME	DIST.	SPEED		TIME	DIST.	SPEED		TIME	FUEL	GPH
1.	1:20	145	_____	5.	____	345	140	9.	1:50	18	____
2.	1:44	250	_____	6.	3:08	____	110	10.	____	14	21
3.	2:50	250	_____	7.	4:26	____	133	11.	3:30	___	6
4.	____	550	146	8.	3:20	____	320	12.	____	40	13

--PRACTICE PROBLEMS - ESTIMATED TIME ENROUTE USING CHECKPOINTS

1. Point A at 1000; Point B at 1012; arrive at Point C at_____
   A_____B_____C
2. Point A at 0944; Point B at 0950; arrive at Point C at_____
   A_____B_____C
3. Point A at 1442; Point B at 1451; arrive at Point C at_____
   A_____B_____C
4. Point A at 1932; Point B at 2000; arrive at Point C at_____
   A_____B_____C
5. Point A at 1152; Point B at 1200; arrive at Point C at_____
   A_____B_____C

--PRACTICE PROBLEMS-WIND SOLUTIONS/FLIGHT PLANNING (Use compass deviation card, pg FILL IN PAGE)

	True Course	True Airspeed	Wind	True Hdg.	Variation	Magnetic Hdg.	Compass Hdg.	GS
1	270	150 Knots	3220+07		7 East			
2	095	130 Knots	1810+06		4 West			
3	101	124 Knots	2625+17		12 West			
4	132	100 Knots	3620+00		17 East			
5	108	175 Knots	1532-08		2 East			

HINT: Use the direction on the wind side of the E6-B computer. Remember that wind directions are given relative to true north. On the exam, true course if often more easily determined by reading the magnetic course from a compass rose, than taking variation out (adding if east, subtracting if west). Sectional charts have variation marked with dashed lines that are often very difficult to find on the FAA exam. Be sure to use the appropriate scale on your plotter when measuring distance.

ANSWERS TO ESTIMATED TIME ENROUTE/FUEL
1-108.5, 2-144, 3-88, 4-3:46, 5-2:28, 6-345, 7-590, 8-1065, 9-9.8, 10-:40, 11-21, 12-3:05
ANSWERS TO ESTIMATED TIME ENROUTE/CHECKPOINTS
1-1040, 2-0955, 3-1512, 4-2015, 5-1232
ANSWERS TO WIND SOLUTIONS & FLIGHT PLANNING

	True Hdg.	Magnetic Hdg.	Compass Hdg.	GS
1	276	269	273	136
2	099	103	098	129
3	105	117	113	147
4	123	106	103	112
5	115	113	109	150

3831. J28
Pilots flying over a national wildlife refuge are requested to fly no lower than
A) 1,000 feet AGL.
B) 2,000 feet AGL.
C) 3,000 feet AGL.

3978. J01
How many satellites make up the Global Positioning System (GPS)?
A) 22.
B) 24.
C) 25.

3979. J01
What is the minimum number of Global Positioning System (GPS) satellites that are observable by a user anywhere on earth?
A) 4.
B) 5.
C) 6.

3980. J01
How many Global Positioning System (GPS) satellites are required to yield a three dimensional position (latitude, longitude, and altitude) and time solution?
A) 4.
B) 5.
C) 6.

205.2007 H982 PVT *(Hint New FAA Question: Try using answers to work problem for easiest solution)*

If a true heading of 135° results in a ground track of 130° and a true airspeed of 135 knots results in a groundspeed of 140 knots, the wind would be from
A) 019° and 12 knots.
B) 200° and 13 knots.
C) 246° and 13 knots.