PILOTTESTQA.COM

Advanced Ground Instructor

FAA written exam study guide



Sample only Not the full guide, and not for sale.

The full version can be ordered from the PilotTestQA store.

Order the full guide

Cockpit photograph by Rhys Abel

How to use this guide

The Advanced Ground Instructor (AGI) test is required before you can obtain a ground instructor certificate with an advanced rating. The rating allows you to give ground training, and to recommend an applicant for a knowledge test, for any certificate or rating except the instrument rating.

The full AGI test contains 100 questions from a databank of more than 1,000 questions. You are allowed 2 hours 30 minutes for the exam and a score of 70% or better is required to pass. With this study guide, a score of 90% or better while completing the exam within 30-45 minutes is easily achievable.

This study guide is divided into four parts.

PART 1

Part 1 has the questions with only the correct answer shown. It is highly recommended you spend the most time on this section. The trick to passing any FAA written exam is rote memorization of the questions and answers. You will learn the fundamentals and principles of all the material later during ground school and self-study lessons. For now, your main focus is to score as high as possible on the AGI exam. The best way to prepare for the written exam is by reading the question and then the correct answer, then moving on to the next question and answer, repeating this process until you've read all of the questions and their correct answers. The idea in doing this is to allow your brain/eyes to associate the correct answer to each question. After you've read through this section several times, you will begin to identify certain key words in both the question and answer which starts making the answers easier to identify.

PART 2

Part 2 has the questions with all three possible answer choices shown. It is recommended you only study this section after you have studied Part 1 enough times to build your memory for identifying the correct answer. You can use this section to give yourself random quizzes to see how well the correct answer "stands out" from the wrong answers.

PART 3

Part 3 has the questions with all three possible answer choices shown and the correct answer is highlighted. You can use this section by having a second person read random questions to you along with the answer choices and they will easily be able to see whether or not you were correct.

PART 4

Part 4 has the images/graphics that accompany the test questions. Some of these graphics may appear to be of low quality, however they are the exact images (resolution and quality) that will be provided to you on the exam.

Contents

Jump to a part or a subject. The same part links sit in the footer of every page.

Part 1 Questions with only the correct answer

Aerodynamics and Aircraft
Aircraft Systems
Flight Instruction
Fundamentals of Instructing
FARs
Airports and Airspace
Navigation
Weather
Weight and Balance / Performance
Aeromedical Factors
Rotorcraft
Lighter-than-air
Gliders

Part 2 Questions with all three answer choices

Aerodynamics and Aircraft
Aircraft Systems
Flight Instruction
Fundamentals of Instructing
FARs
Airports and Airspace
Navigation
Weather
Weight and Balance / Performance
Aeromedical Factors
Rotorcraft
Lighter-than-air
Gliders

Part 3

All three choices, correct answer highlighted

Aerodynamics and Aircraft
Aircraft Systems
Flight Instruction
Fundamentals of Instructing
FARs
Airports and Airspace
Navigation
Weather
Weight and Balance / Performance
Aeromedical Factors
Rotorcraft
Lighter-than-air
Gliders

Part 4

Figures and diagrams >

This is a sample. It does not include all of the questions and answers in the full version of this study guide.

Order the full guide

Part 1

Read the question, then the correct answer, and move on. Repeat until the answer comes with the question.

Aerodynamics and Aircraft

01

What is V(2) speed?

CORRECT ANSWER

B Takeoff safety speed.

02

(Refer to Figure 17.) The airspeed indicated by point D is

CORRECT ANSWER

C maximum structural cruising speed.

Aircraft Systems

03

Aircraft maintenance records must include the current status of

CORRECT ANSWER

C life-limited parts of each airframe, engine, propeller, rotor, and appliance.

04

When operating an aircraft with a constant-speed propeller, which procedure places the least stress on cylinder components?

CORRECT ANSWER

B When power settings are being decreased, reduce manifold pressure before RPM.

Flight Instruction

05

What restriction is imposed regarding flight instruction of other pilots in air transportation service by an airline transport pilot?

CORRECT ANSWER

C 36 hours in any 7-day period.

06

(Refer to Figure 48.) In flying the rectangular course, when would the aircraft be turned less than 90°?

CORRECT ANSWER

A Corners 1 and 4.

Fundamentals of Instructing

07

In a written test, which type of selection-type test items reduces the probability of guessing correct responses?

CORRECT ANSWER

B Matching.

08

Which type of test item creates the greatest probability of guessing?

CORRECT ANSWER

A True-false.

FARs

09

Which is a definition of the term 'crewmember'?

CORRECT ANSWER

B A person assigned to perform duty in an aircraft during flight time.

10

Regulations concerning the operational control of a flight refer to

CORRECT ANSWER

B exercising authority over initiating, conducting, or terminating a flight.

Airports and Airspace

11

A 'stopway' can be defined as an area

CORRECT ANSWER

A designated for use in decelerating the airplane during an aborted takeoff.

12

(Refer to Figure 45.) What are the visibility and cloud clearance requirements in an airplane at night when conducting takeoffs and landings at McCampbell Airport (area 1)?

CORRECT ANSWER

C 3 SM visibility, 500 feet below, 2,000 feet horizontally from clouds.

Navigation

13

What type airspeed at the planned cruise altitude should be entered on a flight plan?

CORRECT ANSWER

A True airspeed.

14

(Refer to Figure 40.) The line from point A to point B of the wind triangle represents

CORRECT ANSWER

A true heading and true airspeed.

Weather

15

Which is the primary driving force of weather on the Earth?

CORRECT ANSWER

A The Sun.

16

(Refer to Figure 3.) Which station is reporting the wind as calm?

CORRECT ANSWER

A KDAL.

Weight and Balance / Performance

17

What would be the new CG location if 135 pounds of weight were added at Station 109.0? Total weight CG location 2,340 lb Station 103.0

CORRECT ANSWER

A Station 103.3.

18

(Refer to Figure 30.) Determine the approximate crosswind component. Landing Rwy 22 Wind 260° at 23 kts

CORRECT ANSWER

B 15 knots.

Aeromedical Factors

19

What suggestion could you make to students who are experiencing motion sickness?

CORRECT ANSWER

C Tell the students to avoid unnecessary head movement and to keep their eyes on a point outside the aircraft.

20

How can smoking affect a pilot?

CORRECT ANSWER

B Reduces the oxygen-carrying capability of the blood.

Rotorcraft

21

How does temperature and weight affect the Vne of a helicopter?

CORRECT ANSWER

B Vne decreases as temperature and weight increase.

22

(Refer to figure 37). During an autorotation, which portion of the rotor blades provides the thrust required to maintain rotor RPM?

CORRECT ANSWER

C Middle or autorotative.

Lighter-than-air

23

What should a pilot do if a small hole is seen in the fabric of a balloon during inflation?

CORRECT ANSWER

C Consult the flight manual to determine if the hole is within acceptable damage limits established for the balloon being flown.

24

What effect, if any, does ambient temperature have on propane tank pressure?

CORRECT ANSWER

B As temperature decreases, propane tank pressure decreases.

Gliders

25

Your glider student (age 43) obtained a student pilot certificate. You inform the student that

CORRECT ANSWER

C the student pilot certificate is valid and will expire 60 calendar months after the date of issue.

26

When flying into a strong headwind on a long glide back to the airport, the recommended speed to use is the

CORRECT ANSWER

C best lift/drag speed plus half the estimated windspeed at the glider's flight altitude.

Part 2

All three choices. The correct one is not marked. Use this after Part 1.

Aerodynamics and Aircraft

01

What is V(2) speed?

A Minimum takeoff speed.
B Takeoff safety speed.
C Takeoff decision speed.

02

(Refer to Figure 17.) The airspeed indicated by point D is

A maneuvering speed.
B never-exceed speed.
C maximum structural cruising speed.

Aircraft Systems

03

Aircraft maintenance records must include the current status of

A all appropriate Airworthiness Certificates.
B life-limited parts of only engine and airframe.
C life-limited parts of each airframe, engine, propeller, rotor, and appliance.

04

When operating an aircraft with a constant-speed propeller, which procedure places the least stress on cylinder components?

A When power settings are being increased, increase manifold pressure before RPM.
B When power settings are being decreased, reduce manifold pressure before RPM.
C Whether power settings are being increased or decreased, RPM is adjusted before manifold pressure.

Flight Instruction

05

What restriction is imposed regarding flight instruction of other pilots in air transportation service by an airline transport pilot?

A 30 hours in any 7-day period.
B 7 hours in any 1-day period.
C 36 hours in any 7-day period.

06

(Refer to Figure 48.) In flying the rectangular course, when would the aircraft be turned less than 90°?

A Corners 1 and 4.
B Corners 1 and 2.
C Corners 2 and 4.

Fundamentals of Instructing

07

In a written test, which type of selection-type test items reduces the probability of guessing correct responses?

A Selection.
B Matching.
C Supply.

08

Which type of test item creates the greatest probability of guessing?

A True-false.
B Supply-type.
C Multiple choice.

FARs

09

Which is a definition of the term 'crewmember'?

A Any person assigned to duty in an aircraft during flight except a pilot or flight engineer.

B A person assigned to perform duty in an aircraft during flight time.

C Only a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

10

Regulations concerning the operational control of a flight refer to

A the specific duties of any required crewmember.

B exercising authority over initiating, conducting, or terminating a flight.

C exercising the privileges of pilot in command of an aircraft.

Airports and Airspace

11

A 'stopway' can be defined as an area

A designated for use in decelerating the airplane during an aborted takeoff.

B at least the same width as the runway capable of supporting an airplane during a normal takeoff.

C not as wide as the runway but capable of supporting an airplane during a normal takeoff.

12

(Refer to Figure 45.) What are the visibility and cloud clearance requirements in an airplane at night when conducting takeoffs and landings at McCampbell Airport (area 1)?

A 3 SM visibility and clear of clouds.

B 1 SM visibility, 500 feet below, 2,000 feet horizontally from clouds.

C 3 SM visibility, 500 feet below, 2,000 feet horizontally from clouds.

Navigation

13

What type airspeed at the planned cruise altitude should be entered on a flight plan?

A True airspeed.
B Indicated airspeed.
C Estimated groundspeed.

14

(Refer to Figure 40.) The line from point A to point B of the wind triangle represents

A true heading and true airspeed.
B groundspeed and true course.
C true airspeed and magnetic heading.

Weather

15

Which is the primary driving force of weather on the Earth?

A The Sun.
B Coriolis.
C Rotation of the Earth.

16

(Refer to Figure 3.) Which station is reporting the wind as calm?

A KDAL.
B KFTW.
C KTYR.

Weight and Balance / Performance

17

What would be the new CG location if 135 pounds of weight were added at Station 109.0? Total weight CG location 2,340 lb Station 103.0

A Station 103.3.

B Station 104.2.

C Station 109.3.

18

(Refer to Figure 30.) Determine the approximate crosswind component. Landing Rwy 22 Wind 260° at 23 kts

A 12 knots.

B 15 knots.

C 17 knots,

Aeromedical Factors

19

What suggestion could you make to students who are experiencing motion sickness?

A Recommend taking medication to prevent motion sickness.

B Have the students lower their head, shut their eyes, and take deep breaths.

C Tell the students to avoid unnecessary head movement and to keep their eyes on a point outside the aircraft.

20

How can smoking affect a pilot?

A Can decrease night vision by up to 50 percent.

B Reduces the oxygen-carrying capability of the blood.

C Creates additional carbon dioxide gases in the body which often leads to hyperventilation.

Rotorcraft

21

How does temperature and weight affect the Vne of a helicopter?

A Vne increases as temperature and weight increase.

B Vne decreases as temperature and weight increase.

C Vne decreases as temperature increases and weight decreases.

22

(Refer to figure 37). During an autorotation, which portion of the rotor blades provides the thrust required to maintain rotor RPM?

A Inner or stall.

B Outer or propeller.

C Middle or autorotative.

Lighter-than-air

23

What should a pilot do if a small hole is seen in the fabric of a balloon during inflation?

A Continue the inflation and make a mental note of the location of the hole for later repair.

B Instruct a ground crew member to inspect the hole and, if under 5 inches in length, continue the inflation.

C Consult the flight manual to determine if the hole is within acceptable damage limits established for the balloon being flown.

24

What effect, if any, does ambient temperature have on propane tank pressure?

A It has no effect.

B As temperature decreases, propane tank pressure decreases.

C As temperature decreases, propane tank pressure increases.

Gliders

25

Your glider student (age 43) obtained a student pilot certificate. You inform the student that

A his/her student pilot certificate it is valid for only 6 months.

B the certificate is invalid because the student pilot certificate can only be a third class medical certificate.

C the student pilot certificate is valid and will expire 60 calendar months after the date of issue.

26

When flying into a strong headwind on a long glide back to the airport, the recommended speed to use is the

A best glide speed.

B minimum sink speed.

C best lift/drag speed plus half the estimated windspeed at the glider's flight altitude.

Part 3

All three choices, with the correct answer highlighted. Useful when someone else is reading the questions to you.

Aerodynamics and Aircraft

01

What is V(2) speed?

A Minimum takeoff speed.

B Takeoff safety speed.

C Takeoff decision speed.

02

(Refer to Figure 17.) The airspeed indicated by point D is

A maneuvering speed.

B never-exceed speed.

C maximum structural cruising speed.

Aircraft Systems

03

Aircraft maintenance records must include the current status of

A all appropriate Airworthiness Certificates.

B life-limited parts of only engine and airframe.

C life-limited parts of each airframe, engine, propeller, rotor, and appliance.

04

When operating an aircraft with a constant-speed propeller, which procedure places the least stress on cylinder components?

A When power settings are being increased, increase manifold pressure before RPM.

B When power settings are being decreased, reduce manifold pressure before RPM.

C Whether power settings are being increased or decreased, RPM is adjusted before manifold pressure.

Flight Instruction

05

What restriction is imposed regarding flight instruction of other pilots in air transportation service by an airline transport pilot?

A 30 hours in any 7-day period.

B 7 hours in any 1-day period.

C 36 hours in any 7-day period.

06

(Refer to Figure 48.) In flying the rectangular course, when would the aircraft be turned less than 90°?

A Corners 1 and 4.

B Corners 1 and 2.

C Corners 2 and 4.

Fundamentals of Instructing

07

In a written test, which type of selection-type test items reduces the probability of guessing correct responses?

A Selection.

B Matching.

C Supply.

08

Which type of test item creates the greatest probability of guessing?

A True-false.

B Supply-type.

C Multiple choice.

FARs

09

Which is a definition of the term 'crewmember'?

A Any person assigned to duty in an aircraft during flight except a pilot or flight engineer.

B A person assigned to perform duty in an aircraft during flight time.

C Only a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

10

Regulations concerning the operational control of a flight refer to

A the specific duties of any required crewmember.

B exercising authority over initiating, conducting, or terminating a flight.

C exercising the privileges of pilot in command of an aircraft.

Airports and Airspace

11

A 'stopway' can be defined as an area

A designated for use in decelerating the airplane during an aborted takeoff.

B at least the same width as the runway capable of supporting an airplane during a normal takeoff.

C not as wide as the runway but capable of supporting an airplane during a normal takeoff.

12

(Refer to Figure 45.) What are the visibility and cloud clearance requirements in an airplane at night when conducting takeoffs and landings at McCampbell Airport (area 1)?

A 3 SM visibility and clear of clouds.

B 1 SM visibility, 500 feet below, 2,000 feet horizontally from clouds.

C 3 SM visibility, 500 feet below, 2,000 feet horizontally from clouds.

Navigation

13

What type airspeed at the planned cruise altitude should be entered on a flight plan?

A True airspeed.

B Indicated airspeed.

C Estimated groundspeed.

14

(Refer to Figure 40.) The line from point A to point B of the wind triangle represents

A true heading and true airspeed.

B groundspeed and true course.

C true airspeed and magnetic heading.

Weather

15

Which is the primary driving force of weather on the Earth?

A The Sun.

B Coriolis.

C Rotation of the Earth.

16

(Refer to Figure 3.) Which station is reporting the wind as calm?

A KDAL.

B KFTW.

C KTYR.

Weight and Balance / Performance

17

What would be the new CG location if 135 pounds of weight were added at Station 109.0? Total weight CG location 2,340 lb Station 103.0

A Station 103.3.

B Station 104.2.

C Station 109.3.

18

(Refer to Figure 30.) Determine the approximate crosswind component. Landing Rwy 22 Wind 260° at 23 kts

A 12 knots.

B 15 knots.

C 17 knots,

Aeromedical Factors

19

What suggestion could you make to students who are experiencing motion sickness?

A Recommend taking medication to prevent motion sickness.

B Have the students lower their head, shut their eyes, and take deep breaths.

C Tell the students to avoid unnecessary head movement and to keep their eyes on a point outside the aircraft.

20

How can smoking affect a pilot?

A Can decrease night vision by up to 50 percent.

B Reduces the oxygen-carrying capability of the blood.

C Creates additional carbon dioxide gases in the body which often leads to hyperventilation.

Rotorcraft

21

How does temperature and weight affect the Vne of a helicopter?

A Vne increases as temperature and weight increase.

B Vne decreases as temperature and weight increase.

C Vne decreases as temperature increases and weight decreases.

22

(Refer to figure 37). During an autorotation, which portion of the rotor blades provides the thrust required to maintain rotor RPM?

A Inner or stall.

B Outer or propeller.

C Middle or autorotative.

Lighter-than-air

23

What should a pilot do if a small hole is seen in the fabric of a balloon during inflation?

A Continue the inflation and make a mental note of the location of the hole for later repair.

B Instruct a ground crew member to inspect the hole and, if under 5 inches in length, continue the inflation.

C Consult the flight manual to determine if the hole is within acceptable damage limits established for the balloon being flown.

24

What effect, if any, does ambient temperature have on propane tank pressure?

A It has no effect.

B As temperature decreases, propane tank pressure decreases.

C As temperature decreases, propane tank pressure increases.

Gliders

25

Your glider student (age 43) obtained a student pilot certificate. You inform the student that

A his/her student pilot certificate it is valid for only 6 months.

B the certificate is invalid because the student pilot certificate can only be a third class medical certificate.

C the student pilot certificate is valid and will expire 60 calendar months after the date of issue.

26

When flying into a strong headwind on a long glide back to the airport, the recommended speed to use is the

A best glide speed.

B minimum sink speed.

C best lift/drag speed plus half the estimated windspeed at the glider's flight altitude.

Part 4

Figures and diagrams

Part 4 has the images/graphics that accompany the test questions. Some of these graphics may appear to be of low quality, however they are the exact images (resolution and quality) that will be provided to you on the exam.

This is a sample. It does not include all of the questions and answers in the full version of this study guide.

Order the full guide

Figure 3. Aviation Routine Weather Reports (METAR)

METAR KAMA 301651Z 05016KT 5/8SM R04/3000FT BR OVC007 11/9 A3013 RMK DZB26DZE40

METAR KAUS 301651Z 12008KT 4SM -RAHZ BKN010 BKN023 OVC160 21/17 A3005 RMK RAB25

METAR KBRO 301655Z 15015G20KT 7SM SCT020 SCT130 TCU OVC250 29/19 A2997 RMK RAB19RAE25

METAR KDAL 301649Z 00000KT 3SM BRHZ OVC009 22/17 A3010

METAR KFTW 301654Z 09004KT 1/2SM HZFU VV006 21/17 A3010

METAR KTYR 301650Z AUTO 08004KT 3SM BR SCT015 24/19 A2999

Figure 3. Aviation Routine Weather Reports (METAR).

Figure 17. Velocity/Load Factor Chart

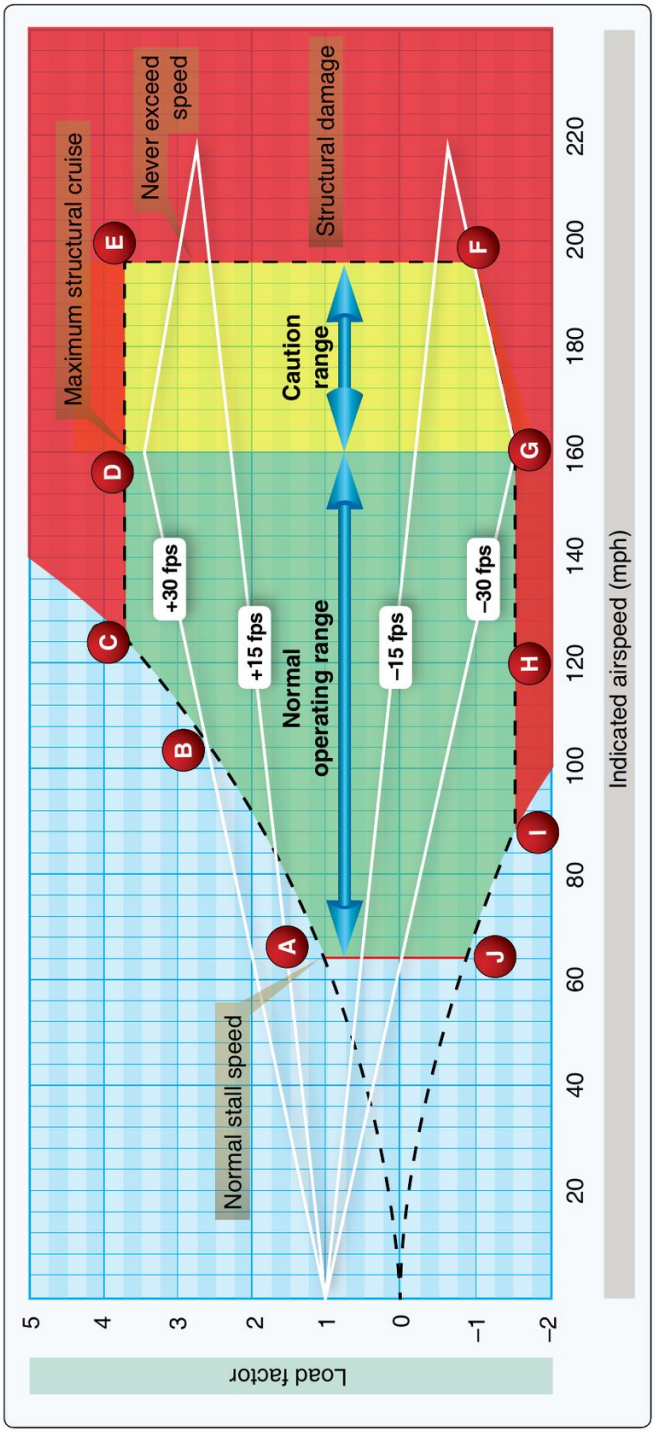

Figure 17. Velocity/Load Factor Chart.

Figure 30. Wind Component Chart

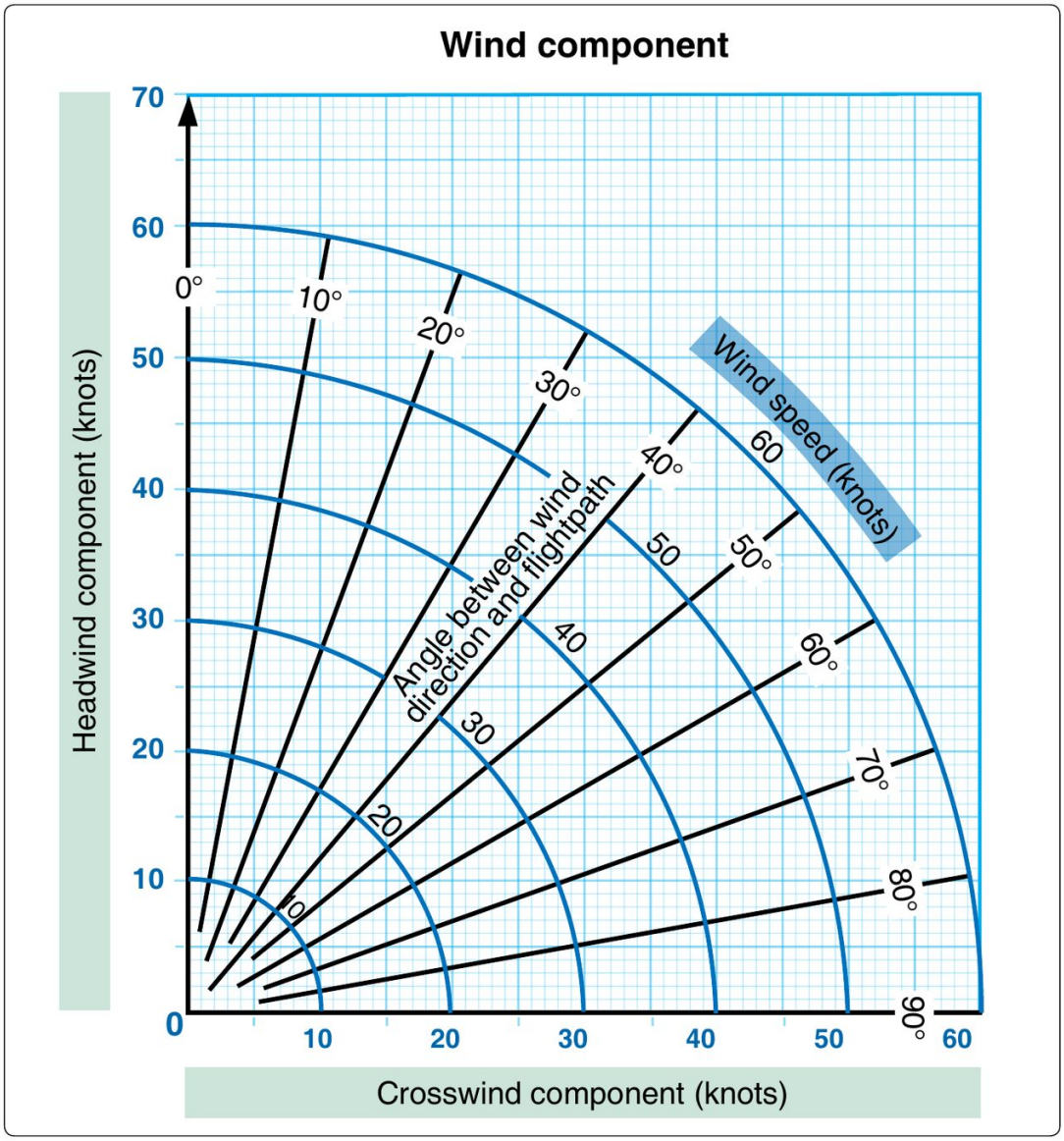

Figure 30. Wind Component Chart.

Figure 37. Rotor Blade Positions

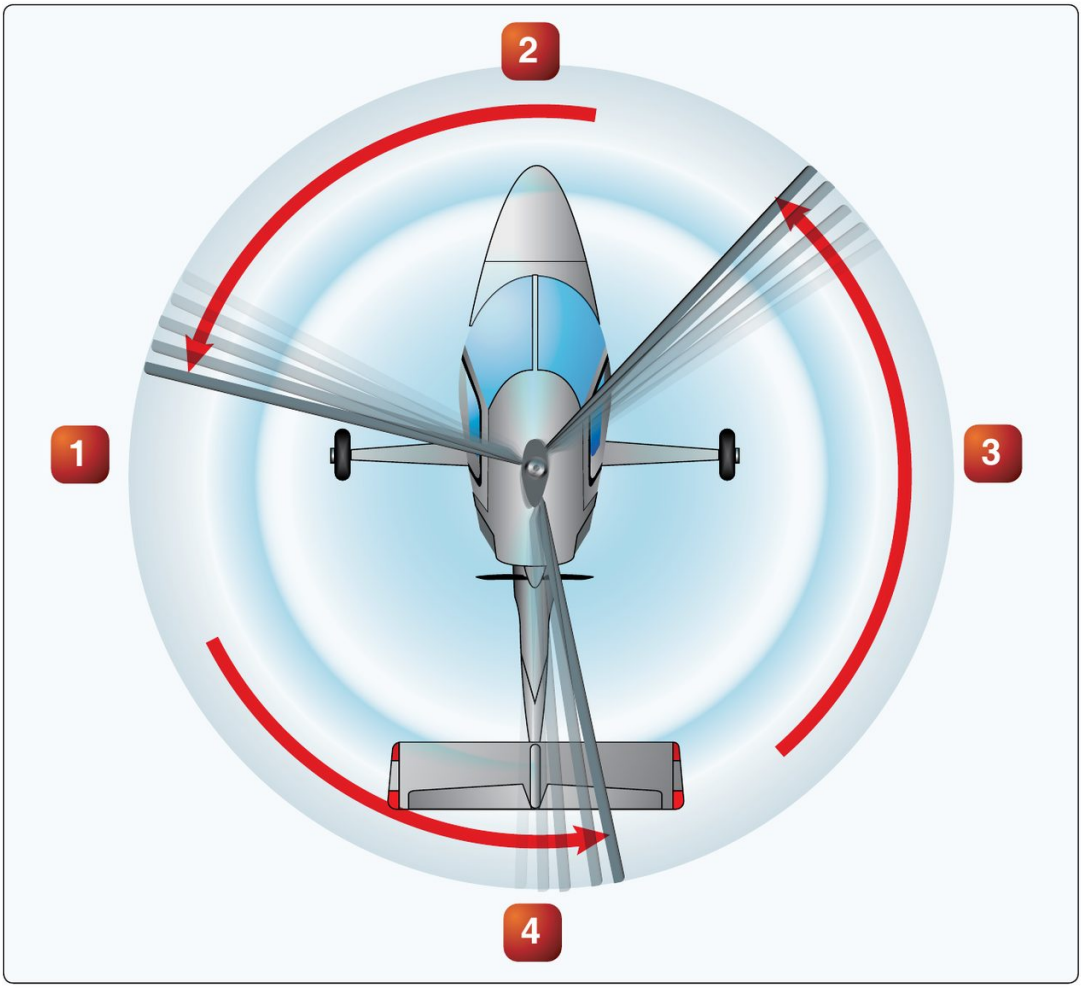

Figure 37. Rotor Blade Positions.

Figure 40. Wind Triangle

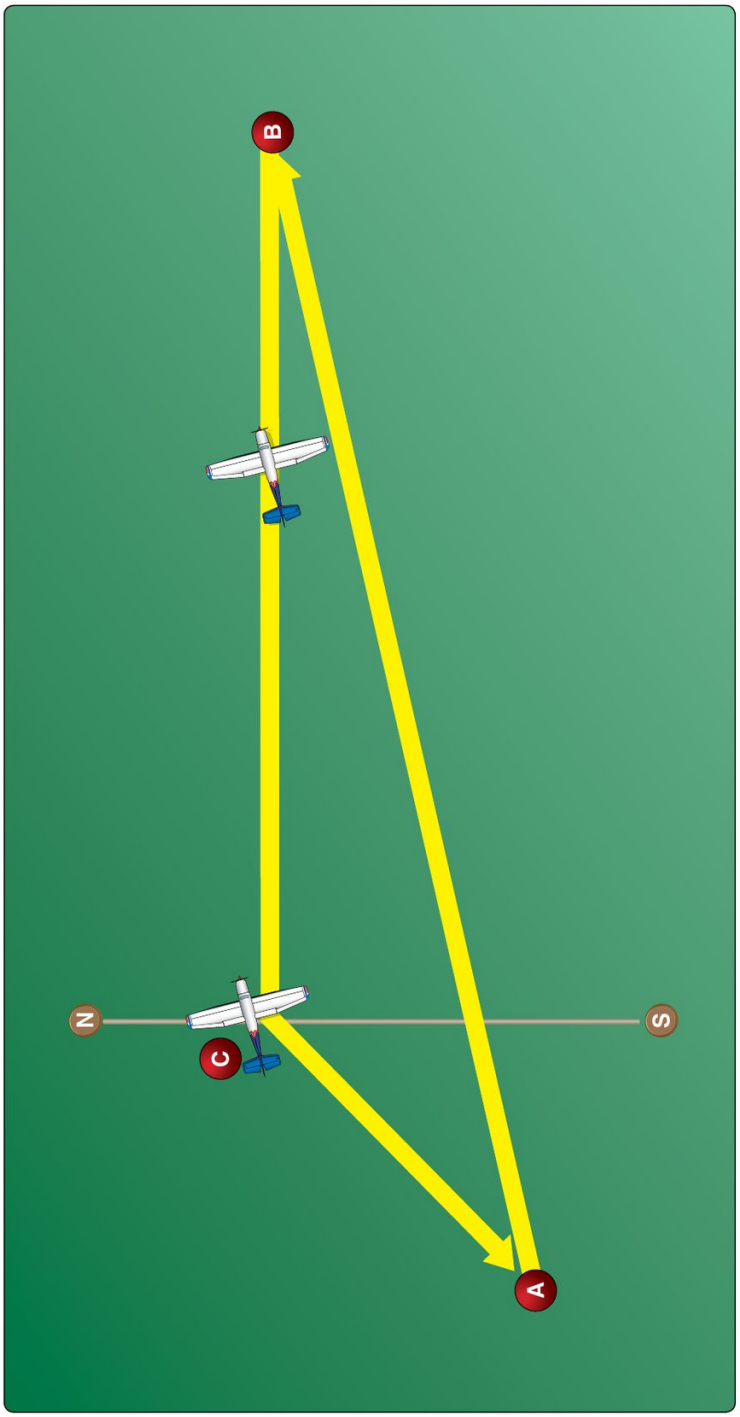

Figure 40. Wind Triangle.

Figure 45. Sectional Chart Excerpt

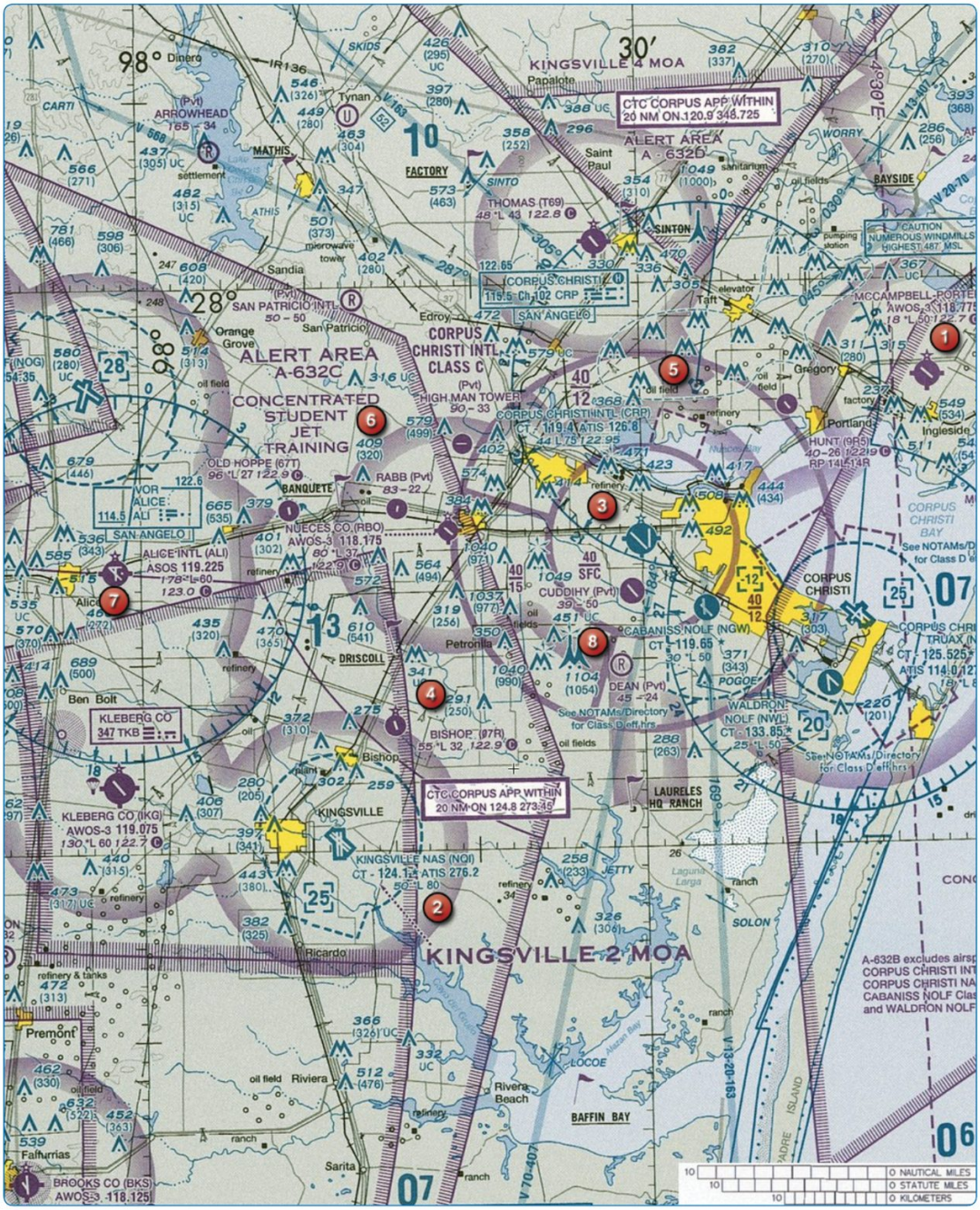

Figure 45. Sectional Chart Excerpt.
Note: *Chart is not to scale and should not be used for navigation. Use associated scale.*

Figure 48. Rectangular Course

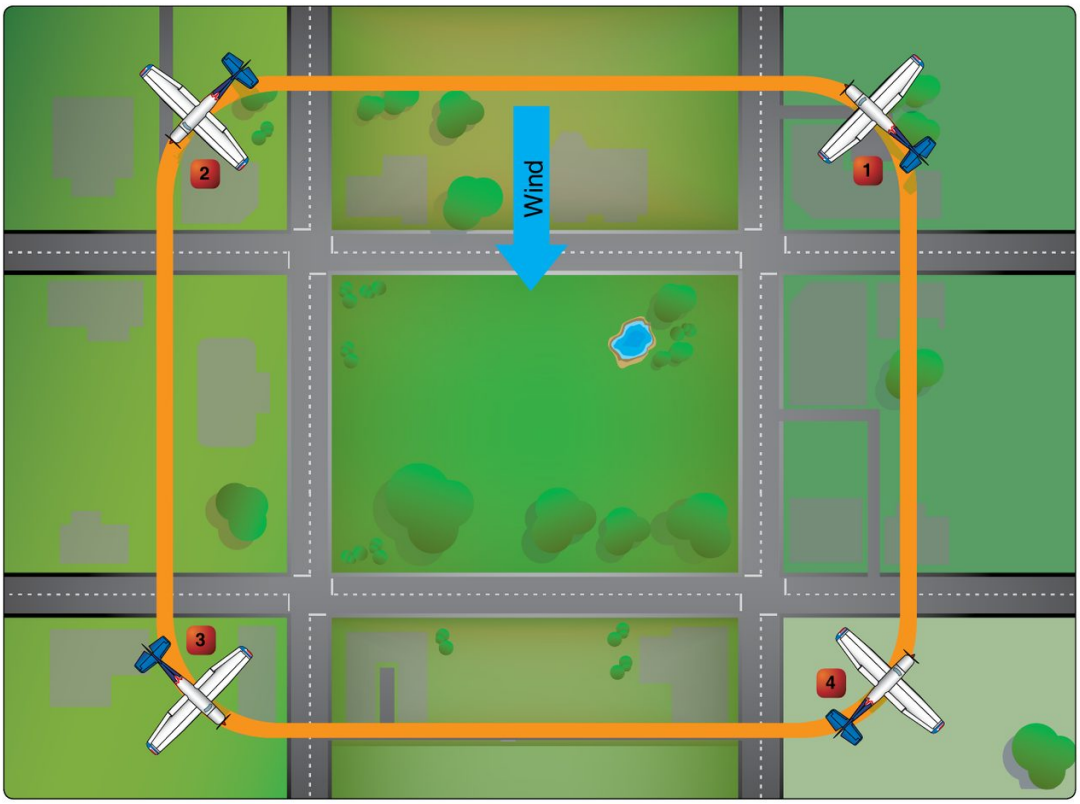

Figure 48. Rectangular Course.