Ch 3A, L3, 2H

Started: Jul 24 at 10:21am

Quiz Instructions

Select the best answer.

Flag question: Question 1

Question 11 pts

Select the true statement regarding the four forces of flight.

Group of answer choices

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The four forces are in equilibrium during unaccelerated flight.

In straight-and-level unaccelerated flight, all four forces are equal in magnitude.

O

During accelerated flight, thrust and drag are equal.

Flag question: Question 2

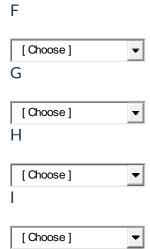
Question 29 pts

Identify the aerodynamic terms associated with the airfoil.

Group of answer choices

Α

[Choose]	
В	
[Choose]	
С	
[Choose]	•
D	
[Choose]	
E	
[Choose]	-



Flag question: Question 3

Question 31 pts

Which of the following is a correct description of how Newton's laws of motion and Bernoulli's principle explain the generation of lift by an airfoil.

Group of answer choices

O

Bernoulli's principle says an increase in the speed of air on the top of an airfoil produces a drop in pressure and this lowered pressure is a component of total lift.

O

Bernoilli's principle describes how for every action there is an equal and opposite reaction.

0

Newton's third law of motion explains that the action of causing downwash results in a reaction of negative lift.

Flag question: Question 4

Question 41 pts

True/False. As airspeed increases, the angle of attack at which an airfoil stalls also increases.

Group of answer choices

0

True

 \bigcirc

False

Flag question: Question 5

Question 51 pts
Determine the aspect ratio of the airframe A.
Determine the aspect ratio of the airriante A.
Group of answer choices
C
3.4
C
7
C
6
8
Flag question: Question 6
Question 61 pts
Identify three methods you can use to control lift during flight
Group of answer choices
limit useful payload
change AOA
bank excessively
employ high-lift devices
change airspeed
Flag question: Question 7
Question 71 pts
True/False. The wing's angle of attack increases when trailing edge flaps are lowered
Group of answer choices
C
True
C
False
Flag question: Question 8
Question 81 pts

Is it more desirable for the wing root or wingtips to stall first?
Group of answer choices
wingtips C
wing root C
the whole wing itself
Flag question: Question 9
Question 91 pts
Select the three forms of parasite drag.
Group of answer choices □
weight drag □
skin friction drag
form drag □
induced drag □
interference drag
Flag question: Question 10
Question 101 pts
Which is the best description of why induced drag increases as airspeed decreases.
Group of answer choices
Induced drag is caused by the downwash created by wingtip vortices formed when the wing is generating lift.
Induced drag increases as airspeed decreases due to the large difference between propeller speed and airspeed.
Induced drag is caused by the higher angle of attack generating more drag on the elevator.

Flag question: Question 11

Question 111 pts

The reduction in induced drag due to ground effect is most noticeable when the airplane is within what distance from the earth's surface?

Group of answer choices
C
6 feet
C
two wingspans
C
one wingspan
O
the longitudinal length of the airplane

Not saved

answers

Ch 3A, L3, 2H Results for Martin Freiwald

Score for this attempt: **19** out of 19 Submitted Jul 23 at 10:41am This attempt took 2 minutes.

Downwash ▼

This attempt took 2 minutes.
Correct answer Question 1 1 / 1 pts
Select the true statement regarding the four forces of flight.
During accelerated flight, thrust and drag are equal.
The four forces are in equilibrium during unaccelerated flight.
C In straight-and-level unaccelerated flight, all four forces are equal in magnitude.
Correct answer
Question 2 9 / 9 pts
Identify the aerodynamic terms associated with the airfoil.
Upwash ▼
Leading Edge
C Trailing Edge ▼
D

E	
	Flight Path ▼
F	
	Relative Wind
G	
	Camber -
Н	
	Chord Line
I	
	Angle of Attack

Correct answer

Question 3

1 / 1 pts

Which of the following is a correct description of how Newton's laws of motion and Bernoulli's principle explain the generation of lift by an airfoil.

O

Bernoilli's principle describes how for every action there is an equal and opposite reaction.

 \odot

Bernoulli's principle says an increase in the speed of air on the top of an airfoil produces a drop in pressure and this lowered pressure is a component of total lift.

0

Newton's third law of motion explains that the action of causing downwash results in a reaction of negative lift.

Correct answer

Question 4

1 / 1 pts
True/False. As airspeed increases, the angle of attack at which an airfoil stalls also
increases.
C
True
Truc
\odot
False
Correct answer Question 5
1 / 1 pts Determine the aspect ratio of the airframe A.
Determine the aspect ratio of the airranie A.
C
6
⊙
7
C
3.4
Correct answer
Question 6
1 / 1 pts
Identify three methods you can use to control lift during flight
employ high-lift devices
employ riigh int devices
limit useful payload

change airspeed
□ bank excessively
▼ change AOA
Correct answer Question 7 1 / 1 pts
True/False. The wing's angle of attack increases when trailing edge flaps are lowered True True
C False Correct answer
Question 8 1 / 1 pts
Is it more desirable for the wing root or wingtips to stall first? • wing root
If the wingtips stall before the root, the disrupted airflow near the wingtip can reduce aileron effectiveness to such an extent that it may be impossible to control the airplane about its longitudinal axis
the whole wing itself C wingting
wingtips

Correct answer Question 9 1 / 1 pts Select the three forms of parasite drag. ✓ interference drag ✓ skin friction drag

weight drag

induced drag

V

form drag

Streamlining decreases form drag, and design features, such as wheel fairings and retractable landing gear, can reduce both form and interference drag. Skin friction drag can be minimized by eliminating protruding rivet heads, and employing a glossy, smooth finish to airplane surfaces.

Correct answer

Question 10

1 / 1 pts

Which is the best description of why induced drag increases as airspeed decreases.

()

Induced drag is caused by the downwash created by wingtip vortices formed when the wing is generating lift.

Induced drag increases as airspeed decreases due to the large difference between propeller speed and airspeed.
C
Induced drag is caused by the higher angle of attack generating more drag on the elevator.
Correct answer
Question 11
1 / 1 pts
The reduction in induced drag due to ground effect is most noticeable when the airplane is within what distance from the earth's surface?
C
6 feet
C
the longitudinal length of the airplane
\odot
one wingspan

O

two wingspans

Quiz Score: 19 out of 19

Ch 3A, L3, 2H Results for Martin Freiwald

Score for this attempt: 16.33 out of 19
Submitted Jul 23 at 10:34am
This attempt took 13 minutes.
Correct answer
Question 1
1 / 1 pts
Select the true statement regarding the four forces of flight.
\odot
The four forces are in equilibrium during unaccelerated flight.
C
In straight-and-level unaccelerated flight, all four forces are equal in magnitude.
C
During accelerated flight, thrust and drag are equal.
Correct answer
Question 2
9 / 9 pts

Identify the aerodynamic terms associated with the airfoil.

Α

В	Upw ash ▼
С	Leading Edge ▼
D	Trailing Edge ▼
E	Dow nw ash ▼
F	Flight Path
G	Relative Wind
н	Camber ▼
I	Chord Line ▼
	Angle of Attack ▼

Correct answer

Question 3

1 / 1 pts

Which of the following is a correct description of how Newton's laws of motion and Bernoulli's principle explain the generation of lift by an airfoil.

0

Bernoilli's principle describes how for every action there is an equal and opposite reaction.

 \odot

Bernoulli's principle says an increase in the speed of air on the top of an airfoil produces a drop in pressure and this lowered pressure is a component of total lift.

0

Newton's third law of motion explains that the action of causing downwash results in a reaction of negative lift.

Correct answer

Question 4

1 / 1 pts

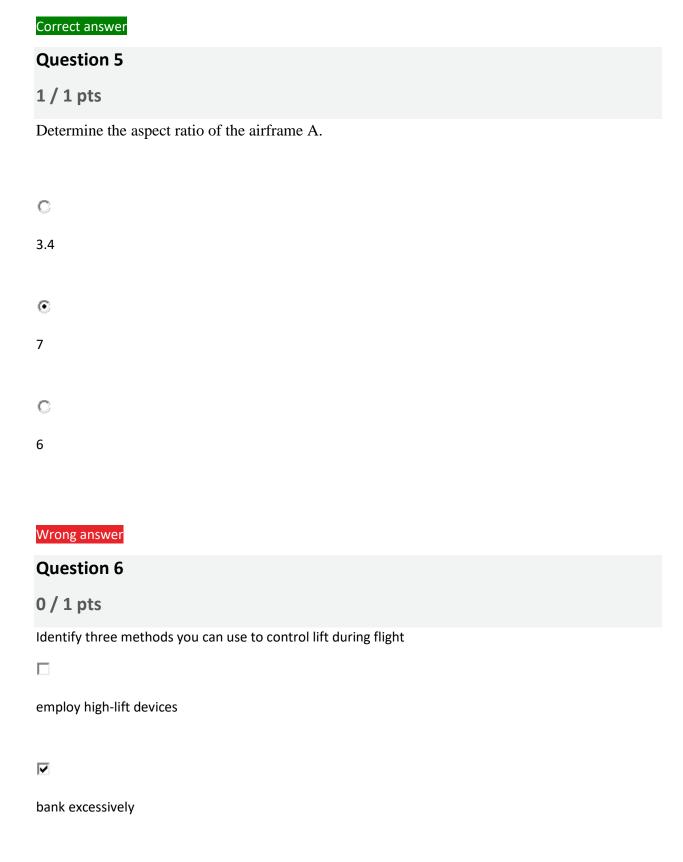
True/False. As airspeed increases, the angle of attack at which an airfoil stalls also increases.

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True

•

False



limit useful payload
change airspeed
change AOA
Correct answer
Question 7
1 / 1 pts
True/False. The wing's angle of attack increases when trailing edge flaps are lowered
\odot
True
C
False
Correct answer
Question 8
1 / 1 pts
Is it more desirable for the wing root or wingtips to stall first?
C

wingtips
C
the whole wing itself
\odot
wing root
If the wingtips stall before the root, the disrupted airflow near the wingtip can reduce aileron effectiveness to such an extent that it may be impossible to control the airplane about its longitudinal axis
Question 9
0.33 / 1 pts
Select the three forms of parasite drag.
interference drag
weight drag
skin friction drag
induced drag



form drag

Wrong answer

Question 10

0 / 1 pts

Which is the best description of why induced drag increases as airspeed decreases.

0

Induced drag is caused by the downwash created by wingtip vortices formed when the wing is generating lift.

0

Induced drag increases as airspeed decreases due to the large difference between propeller speed and airspeed.

 \odot

Induced drag is caused by the higher angle of attack generating more drag on the elevator.

Correct answer

Question 11

1 / 1 pts

The reduction in induced drag due to ground effect is most noticeable when the airplane is within what distance from the earth's surface?

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the longitudinal length of the airplane

€
one wingspan
C
two wingspans
C

6 feet

Quiz Score: **16.33** out of 19