

Question block created by wizard

1. Which gas is the main component of the air at sea level ?

- (a) Nitrogen (N₂)
- o (b) Carbon dioxide (CO₂)
- o (c) Oxygen (O₂)

If choice a is selected set score to 1.

2. In which atmospheric layer do most conventional aircraft fly?

- o (a) Stratosphere
- (b) Troposphere
- o (c) Exosphere

If choice b is selected set score to 1.

3. How does the atmospheric pressure change with altitude?

- o (a) Because the temperature will decrease, the pressure will remain the same.
- o (b) It will increase with height.
- (c) It will decrease with height.

If choice c is selected set score to 1.

4. What is the correct order of atmospheric layers starting from sea-level and increasing in altitude?

- o (a) troposphere, mesosphere, stratosphere
- o (b) stratosphere, troposphere, mesosphere
- (c) troposphere, stratosphere, mesosphere

If choice c is selected set score to 1.

5. At sea-level the air consists mainly of (among other things)....

- (a) Nitrogen (N₂) and Carbon dioxide (CO₂)
- o (b) Oxygen (O₂) and Ozone (O₃)
- o (c) Argon (Ar) and Sulphur (S)

If choice a is selected set score to 1.

6. In what sphere are the different weather conditions like rain, clouds etc. encountered?

- (a) Exosphere.
- (b) Troposphere.
- (c) Stratosphere.

If choice b is selected set score to 1.

7. At the Transition Altitude....

- (a) the Stratosphere starts.
- (b) the pilot must select the International Standard Atmosphere (ISA) pressure setting.
- (c) the temperature remains at a constant value of -56.5 Degrees Celsius.

If choice b is selected set score to 1.

8. A pilot will refer to Flight Level (FL) when the aircraft....

- (a) is airborne, meaning in-flight.
- (b) has reached the cruising altitude.
- (c) is at an altitude above the Transition Altitude.

If choice c is selected set score to 1.

9. What is the International Standard Atmosphere (ISA) pressure setting?

- (a) 0 meters
- (b) 1013.25 hPa
- (c) 288.15 Kelvin

If choice b is selected set score to 1.

10. When QNH is set in the altimeter, what altitude do you read ?

- (a) Actual altitude, adjusted to Mean sea level.

- (b) Airport elevation.
- (c) Transition level.

If choice a is selected set score to 1.

11. In the atmosphere of the earth, where starts the Tropopause?

- (a) At the altitude where the temperature remains stable with an increase in height.
- (b) At about 51 km height.
- (c) At the Transition Altitude (TA).

If choice a is selected set score to 1.

12. In which atmospheric layer occurs the majority of all of the common weather conditions, like rain snow and clouds?

- (a) Troposphere
- (b) Inside the transition layer.
- (c) Ionosphere

If choice a is selected set score to 1.

13. The air consists of 21% of which gas (at sea level)?

- (a) Ozone
- (b) Carbon Dioxide
- (c) Oxygen

If choice c is selected set score to 1.

14. Atmospheric pressure is usually defined as....

- (a) the force exerted against the earth's surface by the weight of the air above that surface.
- (b) dynamic pressure as measured by a pitot-tube.
- (c) the earth gravity measured at sea-level.

If choice a is selected set score to 1.

15. The mean sea level pressure is....

- (a) the atmospheric pressure at sea level.

- (b) the pressure at sea level.
- (c) the pressure of the air.

If choice a is selected set score to 1.

16. Pilots use the current area mean sea level barometric pressure....

- (a) to indicate speed.
- (b) to regulate the temperature in the cabin.
- (c) when approaching an airfield.

If choice c is selected set score to 1.

17. When the altitude increases the temperature will...

- (a) decrease 6.5 °C / 1000 m
- (b) decrease 6.5 K/ 100 m
- (c) increase 6.5 K/ 1000 m

If choice a is selected set score to 1.

18. What does "FL 100" means?

- (a) 10.000 feet high.
- (b) 10.000 meters high.
- (c) 10.000 inch high.

If choice a is selected set score to 1.

19. Before take-off the pilot sets the QNH in his altimeter. What altitude indication will he get at that moment?

- (a) Field elevation above Mean Sea Level (MSL).
- (b) Zero feet.
- (c) The altitude above Field elevation (FE).

If choice a is selected set score to 1.

20. The venturi effect states that when the air passes through a tube which contracts to a throat....

- (a) the air-pressure decreases

- (b) the air-pressure increases
- (c) the air-velocity decreases

If choice a is selected set score to 1.

21. When air passes over a wing, the wing....

- (a) does not change the air-pressure
- (b) increases the air-pressure
- (c) lowers the air-pressure

If choice c is selected set score to 1.

22. How is a fluid flow in which the streamlines maintain a uniform parallel separation called?

- (a) A laminar flow.
- (b) A supersonic flow.
- (c) A turbulent flow.

If choice a is selected set score to 1.

23. The stagnation point....

- (a) converts velocity-energy into pressure-energy
- (b) has influence on the air density
- (c) is always situated at the same point on a wing

If choice a is selected set score to 1.

24. Up wash is....

- (a) the upwards movement of the stagnation point in front of the wing
- (b) the airflow below the wing surface
- (c) an area in front of the leading edge of an aerofoil where the airflow tends to move upwards

If choice c is selected set score to 1.

25. What is the main characteristic of a laminar boundary layer?

- (a) That it has less energy than a turbulent boundary layer.
- (b) That it gives no friction.

- (c) That it has less drag because of the shape.

If choice a is selected set score to 1.

26. What is the name of the point where the airflow changes from laminar flow to turbulent flow?

- (a) Centre of Pressure
- (b) Stagnation Point

- (c) Transition Point

If choice c is selected set score to 1.

27. With the glide ratio we mean the relation between....

- (a) C_L and S

- (b) C_L and C_D

- (c) C_D and A

If choice b is selected set score to 1.

28. The angle of attack is the angle between....

- (a) the longitudinal axis of the aeroplane and the chord.

- (b) the chord line and the direction of the uninterrupted airflow.

- (c) the flightpath and the horizon.

If choice b is selected set score to 1.

29. The chord is the....

- (a) maximum distance between the wingtip and wing root.
- (b) curved middle line of the aerofoil.

- (c) straight line between the leading edge and the trailing edge.

If choice c is selected set score to 1.

30. The purpose of wing fences is to....

- (a) give the laminar boundary layer more energy.
- (b) prevent icing on top of the wing.

- (c) prevent the air from flowing to the tips of swept wings.

If choice c is selected set score to 1.

31. The aspect ratio has to do with....

- o (a) the length and thickness of the wing.
- (b) wing span and chord length.
- o (c) the incidence angle and angle of attack.

If choice b is selected set score to 1.

32. By applying winglets to the wingtips, the....

- o (a) aeroplane can fly faster.
- (b) induced drag is reduced.
- o (c) wing gross area is reduced.

If choice b is selected set score to 1.

33. With geometric wash in/out we mean....

- o (a) the variation in aerofoil shape towards the tip.
- (b) the larger or smaller angle on incidence towards the tip.
- o (c) washing the wing on the inside and outside.

If choice b is selected set score to 1.

34. The fineness ratio is the....

- o (a) ratio between the surface of the wing and the wingspan.
- (b) ratio between the chord length and the depth of the aerofoil.
- o (c) shape of the leading edge of the aerofoil.

If choice b is selected set score to 1.

35. With an increase in speed induced drag is....

- (a) reduced.
- o (b) increased.
- o (c) remains the same.

If choice a is selected set score to 1.

36. What happens to the Lift of a wing if speed doubles and all other conditions stay the same?

$$L = C_L \cdot \frac{1}{2} \rho \cdot v^2 \cdot S$$

- (a) $L_{(new)} = 4 \times L_{(old)}$
- o (b) $L_{(new)} = 2 \times L_{(old)}$
- o (c) Nothing, the Lift stays the same.

If choice a is selected set score to 1.

37. Lift is generated because....

- (a) of the difference in air-pressure above and below the wing
- o (b) the airflow over the wing is laminar.
- o (c) the airflow over the wing is turbulent.

If choice a is selected set score to 1.

38. Aerodynamic lift is....

- o (a) created by the thrust of the engines based on the place they are mounted.
- (b) a result of the mathematical combination of the low pressure, high pressure and the wing surface.
- o (c) determined by the wing surface and its roughness, especially on the top of the wing.

If choice b is selected set score to 1.

39. The Total Air Reaction (TAR) is a combination of....

- o (a) thrust and drag.
- (b) lift and drag.

- o (c) lift and thrust.

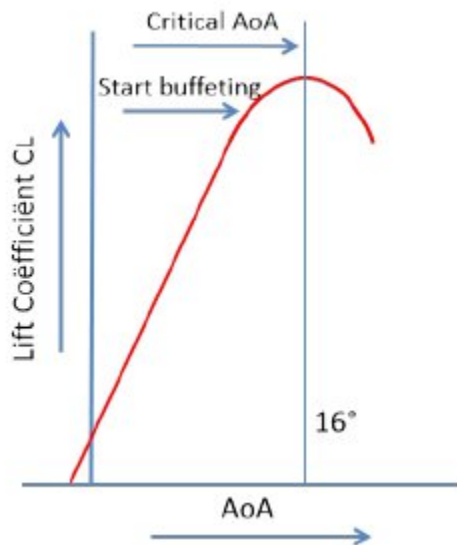
If choice b is selected set score to 1.

40. Which kind of drag can be divided into: Form Drag, Skin Drag and Interference Drag?

- o (a) Coefficient of Drag
- o (b) Induced Drag
- (c) Parasite Drag

If choice c is selected set score to 1.

41. Stalling always occurs....



- o (a) at the same airflow.
- o (b) with the same wing shape.
- (c) at the same angle.

If choice c is selected set score to 1.

42. When an aerofoil stalls, the....

- o (a) lift is reduced to zero (0).
- o (b) lift and drag are reduced.
- (c) lift is reduced and the drag is increased.

If choice c is selected set score to 1.

43. A Swept-Back wing stalls first....

- (a) at the tip of the wing.
- o (b) at the root of the wing.
- o (c) evenly divided along the length of the wing.

If choice a is selected set score to 1.

44. Which factor influences a stall?

- (a) Airspeed
- o (b) Fly by Wire techniques
- o (c) The vertical stabilizer area

If choice a is selected set score to 1.

45. Vortex Generators are used to....

- (a) increase the energy in the boundary layer by mixing free-stream flow into the boundary layer.
- o (b) stimulate the airflow to flow from the wingroot to the wingtip, causing a wing vortex.
- o (c) avoid the airflow from the wingroot to the wingtip.

If choice a is selected set score to 1.

46. The drag coefficient increases with the....

- o (a) wingspan.
- (b) angle of attack.
- o (c) altitude.

If choice b is selected set score to 1.

47. When super cooled droplets touch a hard surface which has a temperature below zero degrees they will change into ice.

This phenomenon is called....

- o (a) frosting.
- o (b) freezing.

- (c) icing.

If choice c is selected set score to 1.

48. Icing can lead to....

- o (a) a streamlined wing.
- o (b) an increase of pressure beneath the wing.
- (c) blocking of the control surfaces.

If choice c is selected set score to 1.

49. Why is flying with a layer of ice dangerous?

- o (a) Radio communication will fail due to radio frequency bouncing.
- o (b) The temperature inside the cabin will decrease.
- (c) The weight of the aircraft is increased.

If choice c is selected set score to 1.

50. The proactive approach to avoid the formation of ice on an aircraft is called?

- o (a) Hold Over Time (HOT).
- o (b) De-Icing.
- (c) Anti-icing.

If choice c is selected set score to 1.

51. This picture is an example of...



- (a) de-icing.
- o (b) engine wash.
- o (c) anti-icing.

If choice a is selected set score to 1.

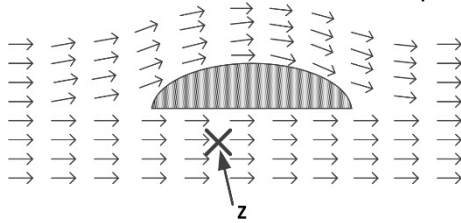
52. This picture is an example of...



- o (a) a welcome to a President.
- (b) anti-icing.
- o (c) de-icing.

If choice b is selected set score to 1.

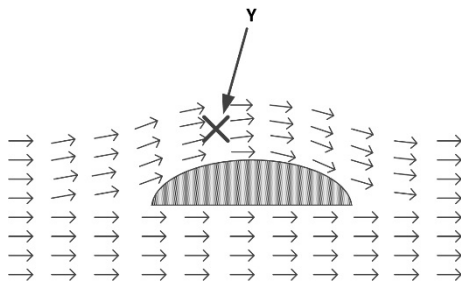
53. This is an object placed in a sub-sonic air flow. At the location of ' Z ' the pressure is higher, lower or the same in reference to the atmospheric pressure?



- (a) Lower
- (b) Higher
- (c) Same

If choice c is selected set score to 1.

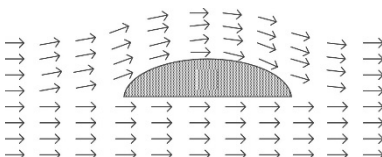
54. This is an object placed in a sub-sonic air-flow. At the location of ' Y ' the pressure is higher, lower or the same in reference to the atmospheric pressure?

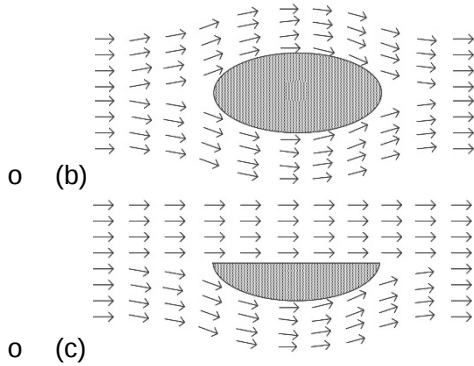


- (a) Same
- (b) Lower
- (c) Higher

If choice b is selected set score to 1.

55. Three objects are placed in a laminar (sub-sonic) air flow. Which object creates 'Lift'?

- (a) 



(b)

(c)

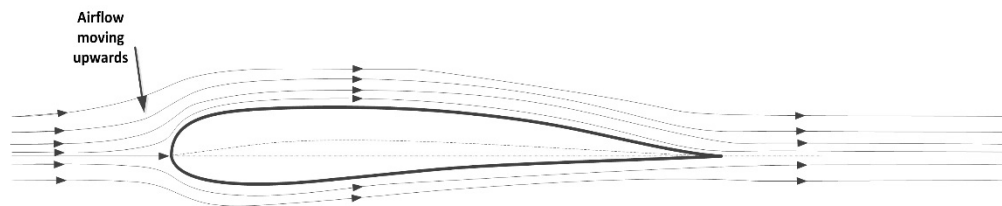
If choice a is selected set score to 1.

56. The layer of air over the surface of an aerofoil which is slower moving, in relation to the rest of the airflow, is known as?

- (a) Chord
- (b) Boundary Layer
- (c) Camber Layer

If choice b is selected set score to 1.

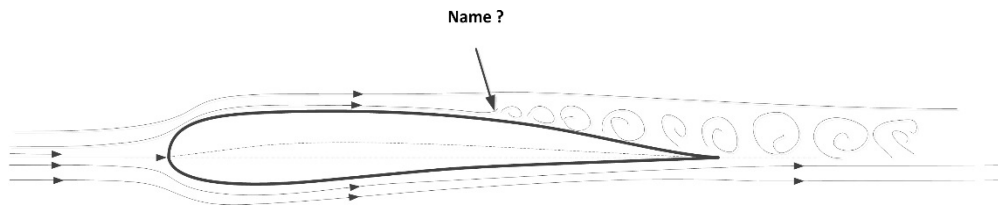
57. As indicated in the figure, the airflow before the aerofoil is moving upward. How is this called?



- (a) Shock Wave
- (b) Wake
- (c) Up Wash

If choice c is selected set score to 1.

58. Which point is indicated by the arrow in this figure?



- (a) Centre of Pressure
- (b) Stagnation Point
- (c) Transition Point

If choice c is selected set score to 1.

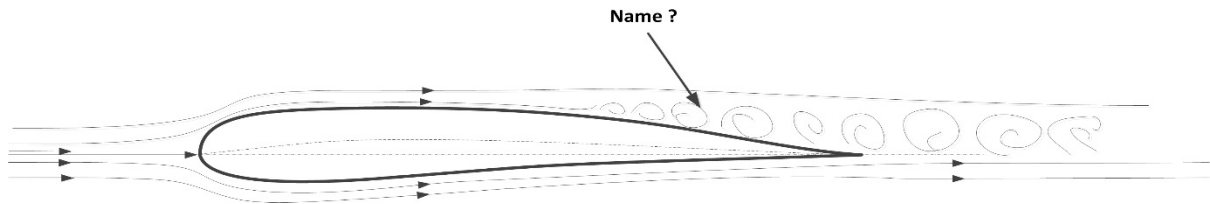
59. What is shown in this picture?



- (a) Antennas
- (b) Vortex Generators
- (c) Stall warning sensors

If choice b is selected set score to 1.

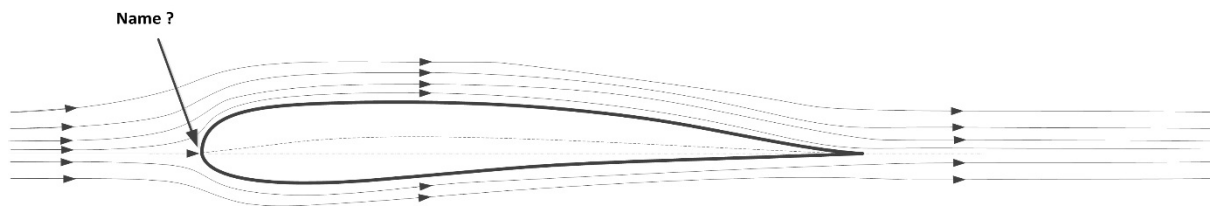
60. What is indicated by the arrow in this figure?



- (a) Down Wash
- (b) Sub-sonic, Boundary layer flow
- (c) Turbulent airflow.

If choice c is selected set score to 1.

61. What is the name of the point indicated?



- (a) Atmospheric Pressure Point
- (b) Stall Point
- (c) Stagnation Point

If choice c is selected set score to 1.

62. What does an aspect ratio of 8:1 mean?

- (a) Span squared 64, chord 8
- (b) Span 64, mean chord 8
- (c) Mean chord 64, span 8

If choice b is selected set score to 1.

63. The pressure over the upper surface of a wing or aerofoil is responsible for approximately....

- (a) 2/3 (two thirds) of the lift obtained.
- (b) 1/2 (one half) of the lift obtained.
- (c) 1/3 (one thirds) of the lift obtained.

If choice a is selected set score to 1.

64. If the speed of an aircraft is increased, the induced drag will....

- (a) increase.
- (b) decrease.
- (c) remain the same.

If choice b is selected set score to 1.

65. If the aerodynamic angle of attack is increased, resulting in a stall, the centre of pressure of the wing will....

- (a) move forward.
- (b) will not change.
- (c) move backward.

If choice c is selected set score to 1.

66. If the aerodynamic angle of attack is increased (but the aerofoil is not stalled), the centre of pressure will....

- (a) will not change.
- (b) move forward.
- (c) move backward.

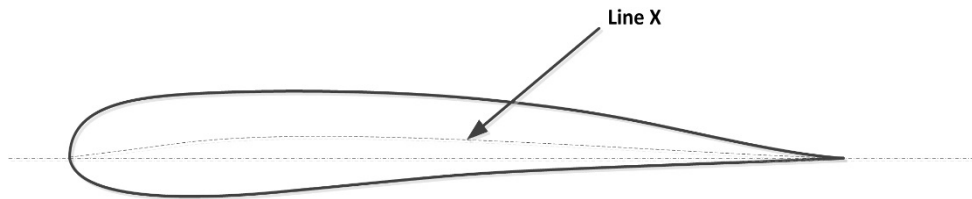
If choice b is selected set score to 1.

67. An aerofoil with a low camber is typically used for....

- (a) aircraft flown at high speeds.
- (b) aircraft flown at low speeds.
- (c) vertical stabilizers.

If choice a is selected set score to 1.

68. In the figure an aerofoil is indicated. What is the name of the indicated line X?



- (a) Span Line
- (b) Chord Line
- (c) Camber Line

If choice c is selected set score to 1.

69. When the angle of attack of the wing increases, the centre of pressure will....

- (a) not move.
- (b) move forward.
- (c) move backward.

If choice b is selected set score to 1.

70. Weight is equal to....

- (a) mass \times gravity.
- (b) mass \times acceleration.
- (c) volume \times gravity.

If choice a is selected set score to 1.

71. Which of the following forces act on an aircraft in level flight?

- (a) Lift, weight, drag, aerodynamic reaction.
- (b) Lift, drag, thrust, aerodynamic reaction.
- (c) Lift, thrust, weight and drag.

If choice c is selected set score to 1.

72. What happens to the lift if the airflow velocity over an upper cambered surface of an aerofoil decreases?

- (a) Lift increases.
- (b) Lift decreases.
- (c) Lift remains the same.

If choice b is selected set score to 1.

73. What force tends to pull an aircraft downwards to the earth?

- (a) Thrust
- (b) Weight
- (c) Drag

If choice b is selected set score to 1.

74. The resulting force on the wing decomposes into...

- (a) a vertical lift on the wing and resistance parallel to the chord-line.
- (b) a lift that is vertically orientated on the wing surface and a horizontal thrust.
- (c) a lift perpendicular to the airflow and a drag parallel to the airflow.

If choice c is selected set score to 1.

75. Where does the resulting force on the wing come from?

- (a) The sum of all under-pressure forces.
- (b) The sum of all under-pressure and over-pressure forces.
- (c) The mathematical sum of all the forces combined with the wing surface.

If choice c is selected set score to 1.

76. The resulting force on the wing acts...

- (a) on the camberline.
- (b) on the chordline.
- (c) in the centre of gravity.

If choice b is selected set score to 1.

77. During a level flight the lift is....

- (a) equal to the weight and the thrust is equal to the drag.
- o (b) greater than the weight and the thrust is smaller than the drag.
- o (c) smaller than the weight and the thrust is greater than the drag.

If choice a is selected set score to 1.

78. The stalling of an aerofoil is affected by the...

- o (a) transition speed.
- o (b) drag.
- (c) angle of attack.

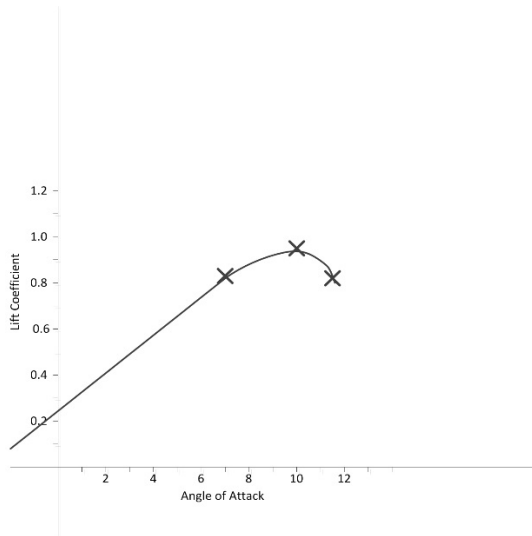
If choice c is selected set score to 1.

79. The optimum angle of attack of an aerofoil is the angle at which the....

- o (a) aerofoil produces zero lift.
- o (b) aerofoil produces maximum lift.
- (c) highest lift/drag ratio is produced.

If choice c is selected set score to 1.

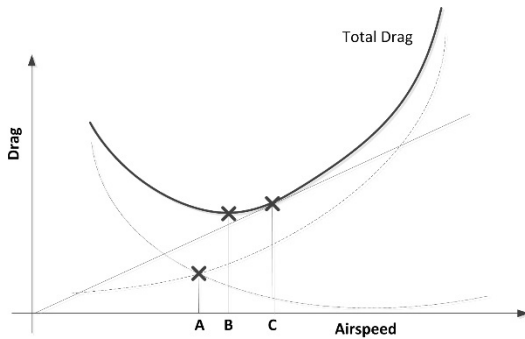
80. Refer to the picture. At which angle of attack will this aircraft start to stall?



- (a) At 10 degrees
- o (b) At 11,5 degrees.
- o (c) At 7 degrees

If choice a is selected set score to 1.

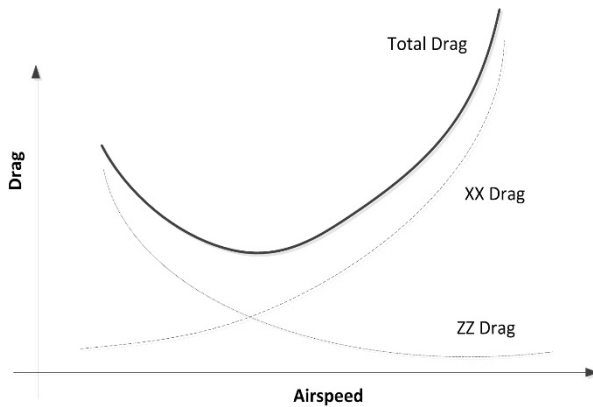
81. Refer to the picture. At which airspeed is the optimum Lift to Drag ratio?



- o (a) Airspeed A
- (b) Airspeed B
- o (c) Airspeed C

If choice b is selected set score to 1.

82. The Total Drag is composed of 2 different kinds of drag. What is the correct name for XX drag?



- (a) Parasitic drag
- (b) Vortex Drag
- (c) Induced Drag

If choice a is selected set score to 1.

83. A stall is...

- (a) not dependent on speed.
- (b) present in boundary layer of the stagnation point.
- (c) the result of an increase in the angle of attack.

If choice c is selected set score to 1.

84. When the angle of attack of a wing increases, the C_L -value will...

- (a) stay the same.
- (b) decrease.
- (c) increase.

If choice c is selected set score to 1.

85. The time the aircraft is protected by fluids against ice is called?

- (a) Grounding time.
- (b) Holdover Time.
- (c) Down Time.

If choice b is selected set score to 1.

86. The removal of fresh snow from an aircraft, which has been on the ground for a couple of hours is called?

- (a) Snow Shovel
- (b) Anti-Icing.
- (c) De-Icing

If choice c is selected set score to 1.

87. In the picture you can see ice on the leading edge of an aircraft. Why is this dangerous?



- (a) The shape of the aerofoil is changed, resulting in less lift and a lower stalling speed.
- (b) The additional weight of the ice, so more lift is required.
- (c) More skin-friction, resulting in more drag.

If choice a is selected set score to 1.

88. What is the effect of aerofoil contamination on the boundary layer?

- (a) The wing lift capability stays stable.
- (b) The wing lift capability deteriorates.
- (c) The aircraft weight may decrease.

If choice b is selected set score to 1.

89. When the lift force is situated behind the centre of gravity and the airflow is disrupted, the....

- (a) aircraft's nose will go up.
- (b) aircraft's nose will go down.
- (c) aircraft will turn.

If choice b is selected set score to 1.

90. When an aircraft is climbing, the....

- (a) lift is equal to the weight.
- (b) lift is less than the weight.
- (c) trust is equal to the drag.

If choice b is selected set score to 1.

91. What is the opposite force of 'thrust' ?

- (a) Drag.
- (b) Weight.
- (c) Lift.

If choice a is selected set score to 1.

92. During a level flight,....

- (a) only the weight acts on the centre of gravity.
- (b) the lift and weight act on the centre of pressure.
- (c) the thrust and drag act on the centre of gravity.

If choice a is selected set score to 1.

93. During a level flight,

- (a) the lift is also equal to the trust and drag.
- (b) weight changes in relation to the lift.
- (c) the lift is always equal to the weight.

If choice c is selected set score to 1.

94. When the glide angle is small, the aeroplane....

- (a) has to throttle up to land.
- (b) will land after a longer distance.
- (c) will land after a shorter distance.

If choice b is selected set score to 1.

95. The glide ratio is the relation between....

- (a) lift and drag.
- (b) drag and gravity.
- (c) lift and gravity.

If choice a is selected set score to 1.

96. A glider (without engines) typically would have?

- (a) A Lift/Drag ratio of 0.99.
- (b) A high Lift/Drag ratio.
- (c) A low Lift/Drag ratio.

If choice b is selected set score to 1.

97. With the glide ratio, we mean the relation between?

- (a) C_D and A.
- (b) C_L and C_D .
- (c) C_L and S.

If choice b is selected set score to 1.

98. The glide ratio is the relation between....

- (a) L and F
- (b) D and L

- (c) L and D

If choice c is selected set score to 1.

99. What is the glide ratio?

- o (a) $L + D = W$
- o (b) $(\frac{1}{2} \cdot \rho \cdot v \cdot C_L \cdot S) / C_D$
- (c) C_L / C_D

If choice c is selected set score to 1.

100. With a horizontal balanced flight, the....

- o (a) thrust has to be greater than the drag.
- o (b) lift has to be greater than the weight.
- (c) sum of all forces has to be resulting to zero.

If choice c is selected set score to 1.

101. When the ailerons are used, the aircraft will?

- (a) Rolling
- o (b) Pitching
- o (c) Yawing

If choice a is selected set score to 1.

102. The performance of an aircraft is better when the....

- o (a) outside air temperature (OAT) is higher.
- o (b) barometric pressure is lower.
- (c) outside air temperature (OAT) is lower.

If choice c is selected set score to 1.

103. The thrust required (T_r) of an aeroplane is equal to the....

- (a) total drag.
- o (b) induced drag.
- o (c) parasite drag.

If choice a is selected set score to 1.

104. The maximum endurance speed is the speed at which you can fly the....

- (a) minimum speed with the maximum C_L .
- (b) maximum distance for a given fuel quantity.
- (c) maximum time for a given fuel quantity.

If choice c is selected set score to 1.

105. When you make a horizontal turn while flying, you will experience....

- (a) centrifugal force.
- (b) increased drag.
- (c) centripetal force.

If choice a is selected set score to 1.

106. The bank angle is the angle between the 'new' lift vector and the....

- (a) 'old' lift vector.
- (b) weight.
- (c) centripetal force.

If choice a is selected set score to 1.

107. The limits in which an aircraft can fly safely, without damage to the aircraft is detailed in....

- (a) the manoeuvring envelope.
- (b) the aeroplane characteristics.
- (c) a power diagram.

If choice a is selected set score to 1.

108. In a manoeuvring diagram the upper limit is defined by?

- (a) Speed of sound.
- (b) Maximum take off weight.
- (c) Load factor.

If choice c is selected set score to 1.

109. Is a pilot allowed to fly outside the manoeuvring envelope?

- (a) Yes
- (b) Yes, but limited for a duration of less than 30 seconds.
- (c) No

If choice c is selected set score to 1.

110. During flight flaps and slats are mostly used simultaneously to....

- (a) descend the aircraft to a lower altitude.
- (b) make the critical angle of attack larger.
- (c) reduce lift.

If choice b is selected set score to 1.

111. By using the slats, the....

- (a) top of the wing surface does not have to be clean.
- (b) pressure above the wing does not change.
- (c) critical angle of attack is larger.

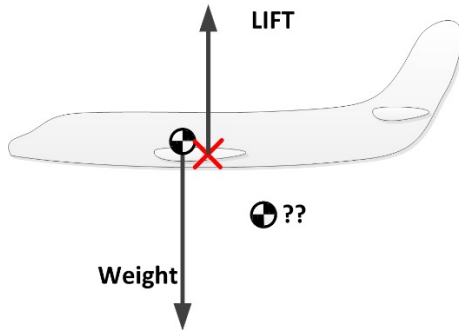
If choice c is selected set score to 1.

112. Roughness of the wing surface....

- (a) decreases the C_L .
- (b) causes the air to stick more to the surface of the wing.
- (c) gives the laminar airflow more energy.

If choice a is selected set score to 1.



113. In the picture, the weight intervenes in a certain point. What is the name of this point?

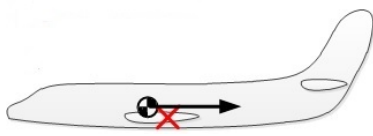
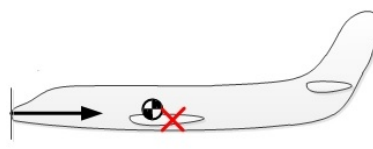
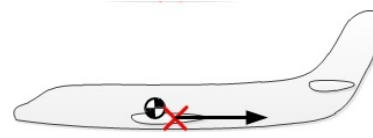


- (a) Centre of gravity
- o (b) Pressure Point
- o (c) Stagnation Point

If choice a is selected set score to 1.

114. Which of the pictures provides the intervention point of the force 'drag' in a horizontal flight?

-  Centre of Gravity
-  Centre of Pressure

- (a) 
- o (b) 
- o (c) 

If choice a is selected set score to 1.

115. What do we mean by an 'ideal' arrangement during a straight and level flight at constant speed?

- (a) The centre of gravity is forward of centre of lift.

- (b) Thrust is equal and opposite to drag.
- (c) Lift is equal and opposite to weight.

If choice a is selected set score to 1.

116. Which of the following flight controls are used to decrease lift of an aircraft?

- (a) Trailing edge flaps.
- (b) Spoilers.
- (c) Leading edge flaps.

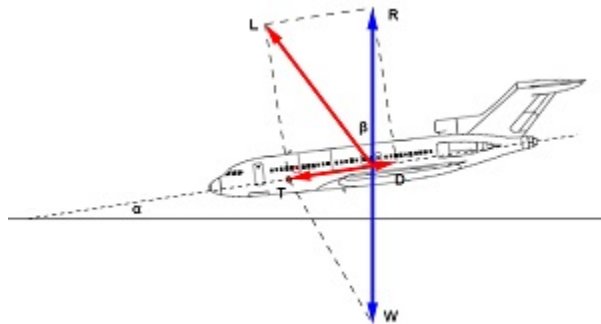
If choice b is selected set score to 1.

117. During a glide, the pilot tries to maximize the gliding distance. Which ratio is very important?

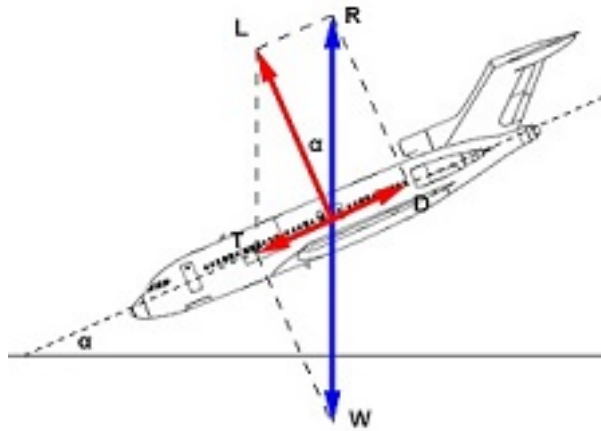
- (a) W/L (Weight lift ratio)
- (b) W/D (Weight drag ratio)
- (c) L/D (Lift drag ratio)

If choice c is selected set score to 1.

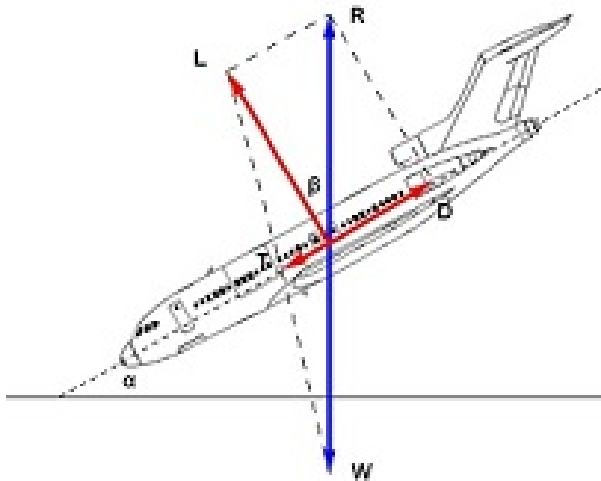
118. During a glide, in which figure is the correct glide angle (α) indicated?



- (a)



- (b)



- o (c)

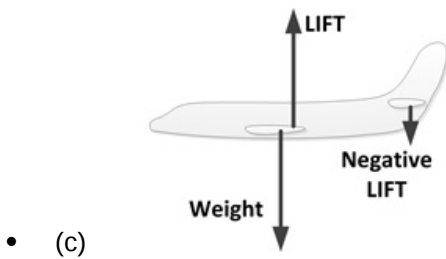
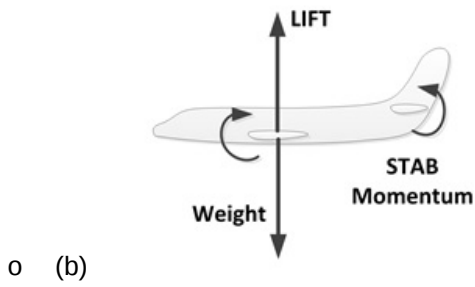
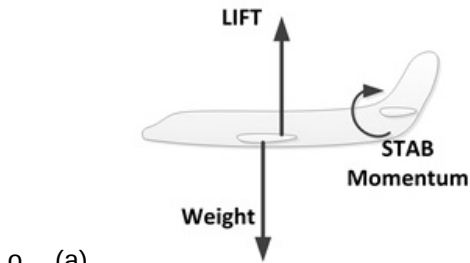
If choice b is selected set score to 1.

119. A glider (without an engine) moves forward. How is this possible?

- o (a) By the tail wind.
- o (b) By the drag element of the lift which pushes the aircraft forward.
- (c) By a component of the weight which pulls the aircraft forward.

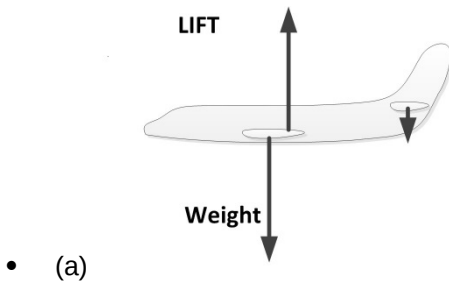
If choice c is selected set score to 1.

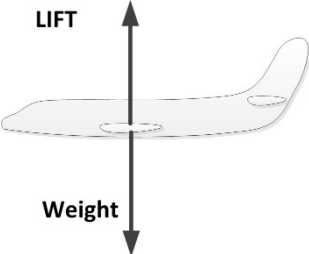
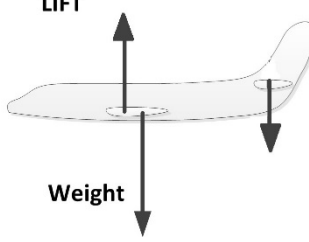
120. During a normal steady state flight, the resultant of Lift and Weight forces is properly represented in picture....



If choice c is selected set score to 1.

121. During a normal steady state flight, the resultant of Lift and weight forces are properly represented in picture?



- (b)
- 
- The diagram shows a side view of an airplane. A vertical arrow labeled 'LIFT' points upwards from the center of the fuselage. A vertical arrow labeled 'Weight' points downwards from the same point. The airplane is shown in a level, straight flight attitude.
- (c)
- 
- The diagram shows a side view of an airplane. A vertical arrow labeled 'LIFT' points upwards from the center of the fuselage. A vertical arrow labeled 'Weight' points downwards from the same point. Additionally, a vertical arrow points downwards from the tail section of the airplane. The airplane is shown in a level, straight flight attitude.

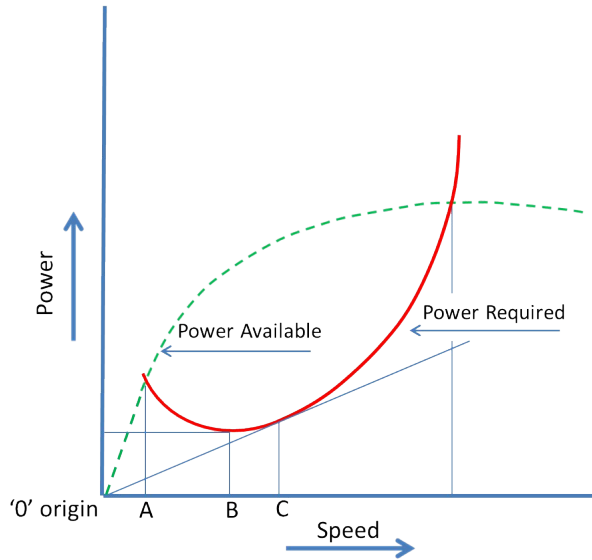
If choice a is selected set score to 1.

122. When the speed of an aeroplane decreases the...

- (a) weight of the aeroplane becomes greater than the lift.
- (b) thrust and drag stay the same.
- (c) thrust becomes less than the drag.

If choice c is selected set score to 1.

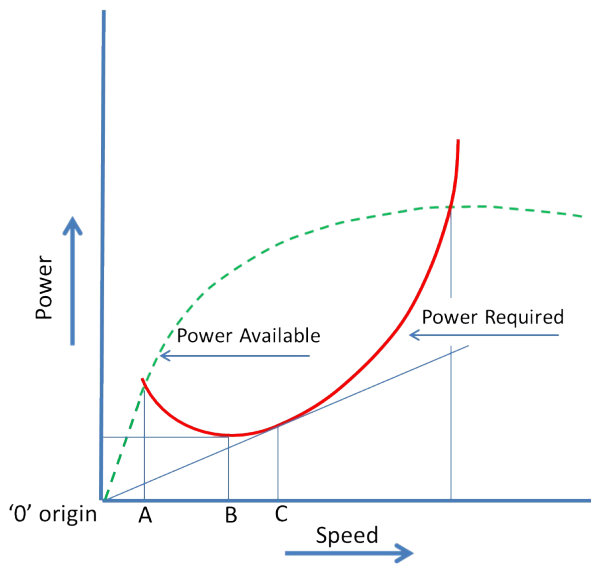
123. The speed at which you can fly maximum distance for a certain fuel quantity is indicated by letter....



- (a) A
- (b) C
- (c) B

If choice b is selected set score to 1.

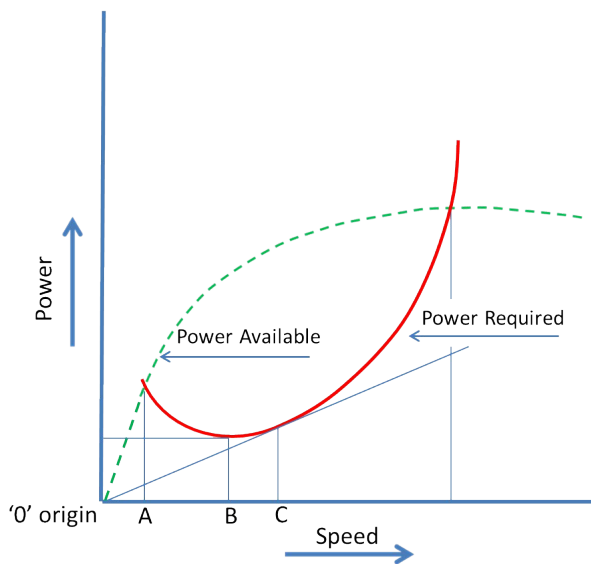
124. The maximum endurance speed is indicated by letter....



- (a) A
- (b) C
- (c) B

If choice c is selected set score to 1.

125. The speed at which the C_L is at maximum is indicated by letter....



- (a) B

- (b) A
- o (c) C

If choice b is selected set score to 1.

126. Which of the following control surfaces are primary control surfaces?

- o (a) Roll spoilers, elevators, tabs.
- o (b) Elevators, roll spoilers, tabs.
- (c) Elevators, ailerons, rudder.

If choice c is selected set score to 1.

127. The load-factor (or 'g' force) on an aircraft in a banked turn is related to the....

- o (a) altitude of speed.
- o (b) mass.
- (c) angle of bank.

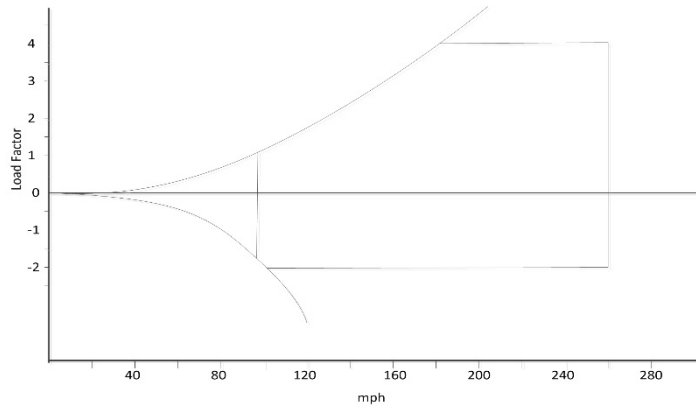
If choice c is selected set score to 1.

128. If an aircraft moves in roll, it is moving about the....

- o (a) lateral axis.
- (b) longitudinal axis.
- o (c) normal axis.

If choice b is selected set score to 1.

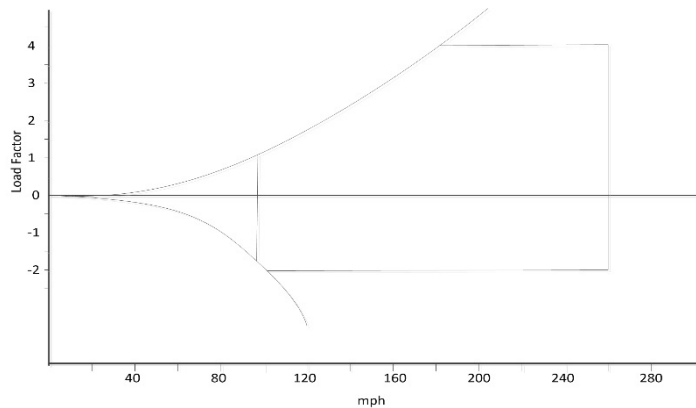
129. What is the Normal Stall Speed in the shown manoeuvring or flight envelope?



- (a) Approximately 95 mph
- o (b) At a load-factor of 3 this would be 160 mph
- o (c) That cannot be determined from the flight envelope.

If choice a is selected set score to 1.

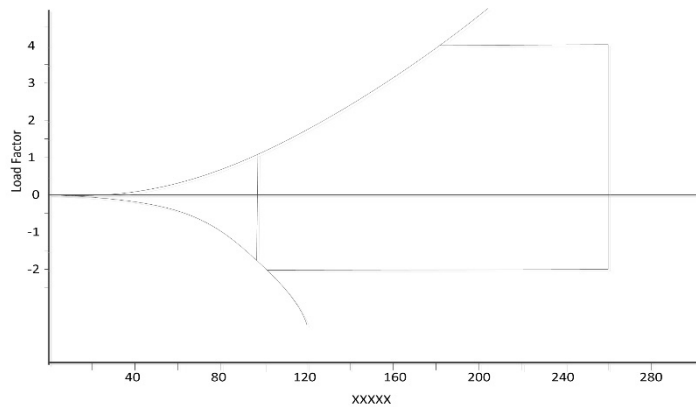
130. What could happen if the aircraft flies (during a horizontal flight) faster than 280 mph?



- (a) The pilot has past the structural limits, a structural failure could occur.
- o (b) A stall could occur.
- o (c) This cannot happen, this aircraft cannot fly faster than 260 mph.

If choice a is selected set score to 1.

131. What is the parameter of the x-axes in this flight envelope?



- (a) Lift-Drag Ratio
- (b) Angle of attack
- (c) Airspeed

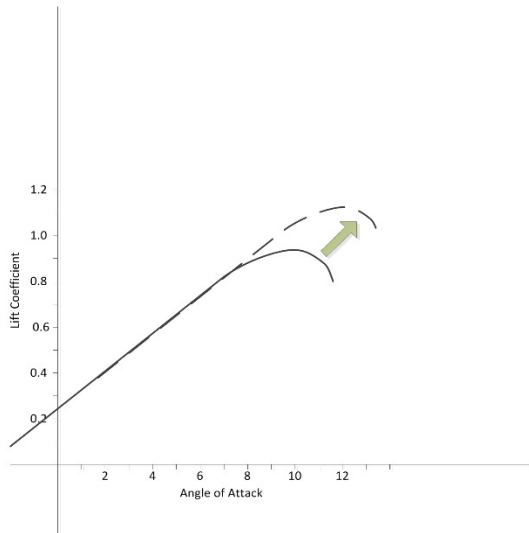
If choice c is selected set score to 1.

132. Lowering the flaps....

- (a) increases lift.
- (b) increases drag.
- (c) increases drag and lift.

If choice c is selected set score to 1.

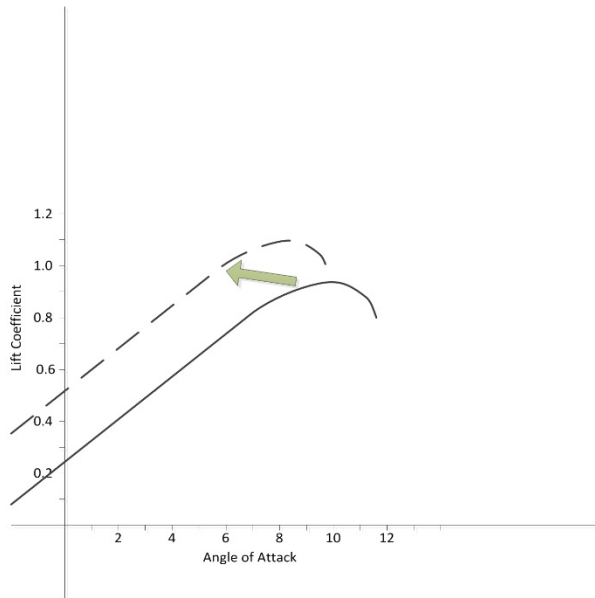
133. The improved Lift Coefficient at a higher Angle of Attack is the result of using....



- (a) leading edge slats.
- o (b) spoilers.
- o (c) flaps.

If choice a is selected set score to 1.

134. The improved Lift Coefficient at a lower angle of attack is the result of using....



- o (a) leading edge slats.
- o (b) spoilers.

- (c) flaps.

If choice c is selected set score to 1.

135. Lateral stability is stability around....

- (a) the lateral axis
- (b) the vertical axis
- (c) the longitudinal axis.

If choice c is selected set score to 1.

136. When an aeroplane has its wing tips pointing upwards (positive V-shape or Dihedral) this increases its....

- (a) dynamic directional stability.
- (b) static lateral stability.
- (c) static longitudinal stability.

If choice b is selected set score to 1.

137. Sweep-back wings have a positive influence on the....

- (a) lateral stability.
- (b) dynamic stability.
- (c) directional stability.

If choice c is selected set score to 1.

138. The vertical stabilizer has influence on the....

- (a) longitudinal stability.
- (b) directional stability.
- (c) lateral stability.

If choice b is selected set score to 1.

139. Which stability talks about the continues motion of a body over a certain time after its equilibrium is disturbed?

- (a) Deflection Stability
- (b) Dynamic Stability
- (c) Static Stability

If choice b is selected set score to 1.

140. Which kind of stability is helped by the pendulum effect?

The...

- (a) lateral stability.
- (b) longitudinal stability.
- (c) directional stability.

If choice a is selected set score to 1.

141. Lateral stability is assisted by....

- (a) deflection of spoilers.
- (b) anhedral.
- (c) dihedral.

If choice c is selected set score to 1.

142. Yaw dampers are designed to....

- (a) reduce the effect of crabbing due to cross winds.
- (b) assist the pilot to move the rudder.
- (c) prevent Dutch Roll.

If choice c is selected set score to 1.

143. An aircraft in a steady state flight is disturbed. If after this disturbance the aircraft returns to steady state flight again. How is this called?

- (a) Neutral Static Stability
- (b) Trimming
- (c) Positive Dynamic Stability

If choice c is selected set score to 1.

144. An aircraft roll is initiated with the deflection of...

- (a) elevators.
- (b) ailerons.
- (c) rudder.

If choice b is selected set score to 1.

145. Directional stability is maintained by....

- (a) the ailerons.
- (b) the tail-plane and controlled by the elevators.
- (c) the effective keel surface and controlled by the rudder.

If choice c is selected set score to 1.

146. 'Dutch roll' affects....

- (a) pitch and roll simultaneously.
- (b) yaw and roll simultaneously.
- (c) pitch and yaw simultaneously.

If choice b is selected set score to 1.

If assessment score is 0% to 100% Feedback