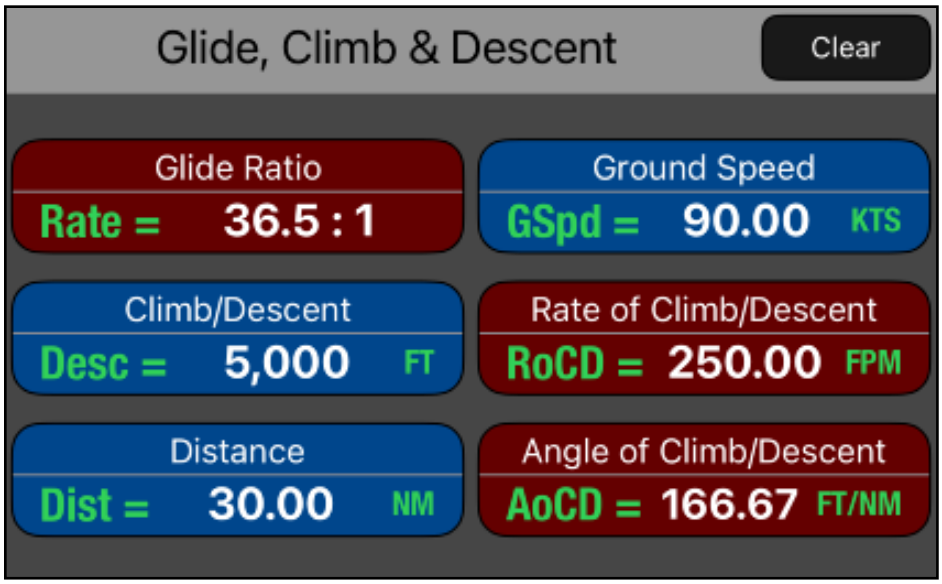
Glide, Climb & Descent Worksheet



Glide, Climb & Descent Buttons	
Clear	Set all variables to a invalid state keeping the current value. If it is touched again, clears all values to 0.
Rate	**Glide Ratio:** Store or validate **Rate** value for the calculation of **Desc** or **Dist** and **AoCD**.
Desc	**Climb or Descent:** Store or validate **Desc** value for the calculation of **Rate**, **Dist** and **AoCD**.
Dist	**Distance:** Store or validate **Dist** value for the calculation of **Rate**, **Desc** and **AoCD**.
GSpd	**Ground Speed:** Store or validate **GSpd** value for the calculation of **Dist** or **RoCD**.
RoCD	**Rate of Climb or Descent:** Store or validate **RoCD** value for the calculation of **Dist** or **GSpd**.
AoCD	**Angle of Climb or Descent:** Stores or validate the **AoCD** value for the calculation of **Desc**, **Rate** or **Dist**.

This worksheet allows the calculation of the horizontal distance (**Dist**) or the glide ratio (**Rate**) or the angle of climb/descent (**AoCD**) or the descent (**Desc**) values, given any two of them. Also, with the input of the ground speed (**GSpd**), computes the rate of climb or descent (**RoCD**) or vice versa. Note that **Desc** will work for both altitudes either climbing or descending.

NOTE: Always verify the physical units
To change the units of a variable, tap over the unit symbol and select the right one from the pop-up menu. To change the whole units in the worksheet select “Set Metric Units” or “Set US Units” from the **[UNITS▶]** button in the Navigation Bar.

All the following examples use US units. So please select “Set US Units” from the **[UNITS▶]** menu in the Navigation Bar.

Example 1:

An aircraft has a best glide ratio of 30:1. What is the maximum number of nautical miles traveled while losing 2,000 feet?.

Solution:

Keystrokes	Description
[Clear] [Clear]	Clears all variables to start a new calculation.
type 30 **[Rate]**	Stores 30:1 glide ratio in **Rate** (the button change to blue) and automatically computes **AoCD = 202.54**.
type 2000 **[Desc]**	Stores 2,000 FT descent in **Desc** (the button change to blue) and automatically calculates the values of: **Dist = 9.87 NM** (the button change to red).

Example 2:

How many feet will an aircraft sink in 15 nautical miles if the lift/drag ratio is 22:1?

Solution:

Keystrokes	Description
[Clear]	Invalidate all variables.
type 22 **[Rate]**	Stores 22:1 glide ratio in **Rate** (the button change to blue) and automatically computes **AoCD = 276.19**.
type 15 **[Dist]**	Stores 15 NM distance in **Dist** (the button change to blue) and automatically calculates the values of: **Desc = 4,143 FT** (the button change to red).

Example 3:

An aircraft has lost 2,000 feet in 9 nautical miles. What is the glide ratio for the aircraft?.

Solution:

Keystrokes	Description
[Clear]	Invalidate all variables.
type 2000 **[Desc]**	Stores 2,000 FT descent in **Desc** (the button change to blue).
type 9 **[Dist]**	Stores 9 NM distance in **Dist** (the button change to blue) and automatically calculates the values of: **Rate = 27.3:1** (the button change to red). **AoCD = 222.22 FT/NM** (the button change to red).

Example 4:

An aircraft has lost 5,000 feet in 30 nautical miles. What is the angle of descent and glide ratio for this aircraft?. If the the ground speed is 90 knots, what if the rate of decent?.

Solution:

Keystrokes	Description
[Clear]	Invalidate all variables.
type 5000 **[Desc]**	Stores 5,000 FT descent in **Desc** (the button change to blue).
type 30 **[Dist]**	Stores 30 NM distance in **Dist** (the button change to blue) and automatically calculates the values of: **Rate = 36.5:1** (the button change to red). **AoCD = 166.67 FT/NM** (the button change to red).
type 90 **[GSpd]**	Stores 90 KTS speed in **GSpd** (the button change to blue) and automatically calculates the values of: **RoCD = 250.00 FPM** (the button change to red).

Appendix : Equations Used

The equations that this worksheet calculates are:

a) Glide Ratio: **Rate** = **Desc** / **Dist**

b) Descent Altitude: **Desc** = **Dist** / **Rate**

c) Descent Distance: **Dist** = **Desc** · **Rate**

d) Rate of Climb/Descent: **RoCD** = **Desc** · **GSpd** / **Dist**

e) Angle of Climb/Descent: **AoCD** = **Desc** / **Dist**