TRIGONOMETRY
TP WITH GEOGEBRA

Lycée International Manosque 3°

Useful commands :

 New point

 Move

 Half line (end point - point)

 Point of intersection

 Perpendicular line

 Angle

 Distance

Menu Affichage → Axes: Makes the axes appear or disappear

Menu EDITER → Propriétés: (or right click on the object then propriétés) This dialogue box lets you modify the properties of the objects selected in the table on the right.

1. Drawing the diagram

- ✓ If the axes are visible, make them disappear (to make the diagram clearer)
- ✓ Mark three points in the plane, called B, D, E.
- ✓ Draw the half lines [BD) and [BE).
- ✓ Mark a point A on [BD).
- ✓ Draw the line perpendicular to [BD) which goes through A.
- ✓ Create the point C, the point of intersection of [BE) and the line perpendicular to [BD) which goes through A.

2. Ratios of lengths in the triangle ABC, which has a right angle at A

- ✓ Display the lengths AB, BC, and AC and the value of angle ABC .
- ✓ Calculate the quotients $R_c = \frac{AB}{BC}$, $R_s = \frac{AC}{BC}$ and $R_t = \frac{AC}{AB}$.

Example : To calculate Rc, type: Rc=distance[A,B]/distance[B,C] in "Saisie" at the bottom of the page then press enter. The number Rc will be displayed in the left hand column.

1. Fill in the table below for values of AB, AC, BC, ABC, Rc, Rs and Rt then move the point A along [BD) and fill in the new values.

Do this twice more.

	AB	AC	BC	ABC	$R_c = \frac{AB}{BC}$	$R_s = \frac{AC}{BC}$	$R_t = \frac{AC}{AB}$

What do you notice ?.....
……
……..

2. Change the angle ABC by moving the half line [BE).

What is the new value of the angle ABC : ……

What happens to Rc, Rs and Rt when we change the value of the angle ABC ? …….
……
…….

3. In the table below, put in the values of angle ABC which you had in questions 3 and 4 above then, using the cos, sin and tan functions of your calculator, fill in the rest of the table :

ABC	$cos(ABC)$	$sin(ABC)$	$tan(ABC)$

What do you notice ?.....

Your files (this one and the one of your Geogebra figure) have to be put on Chamilo (in Assignment/Trigo TP) for Tuesday 14th