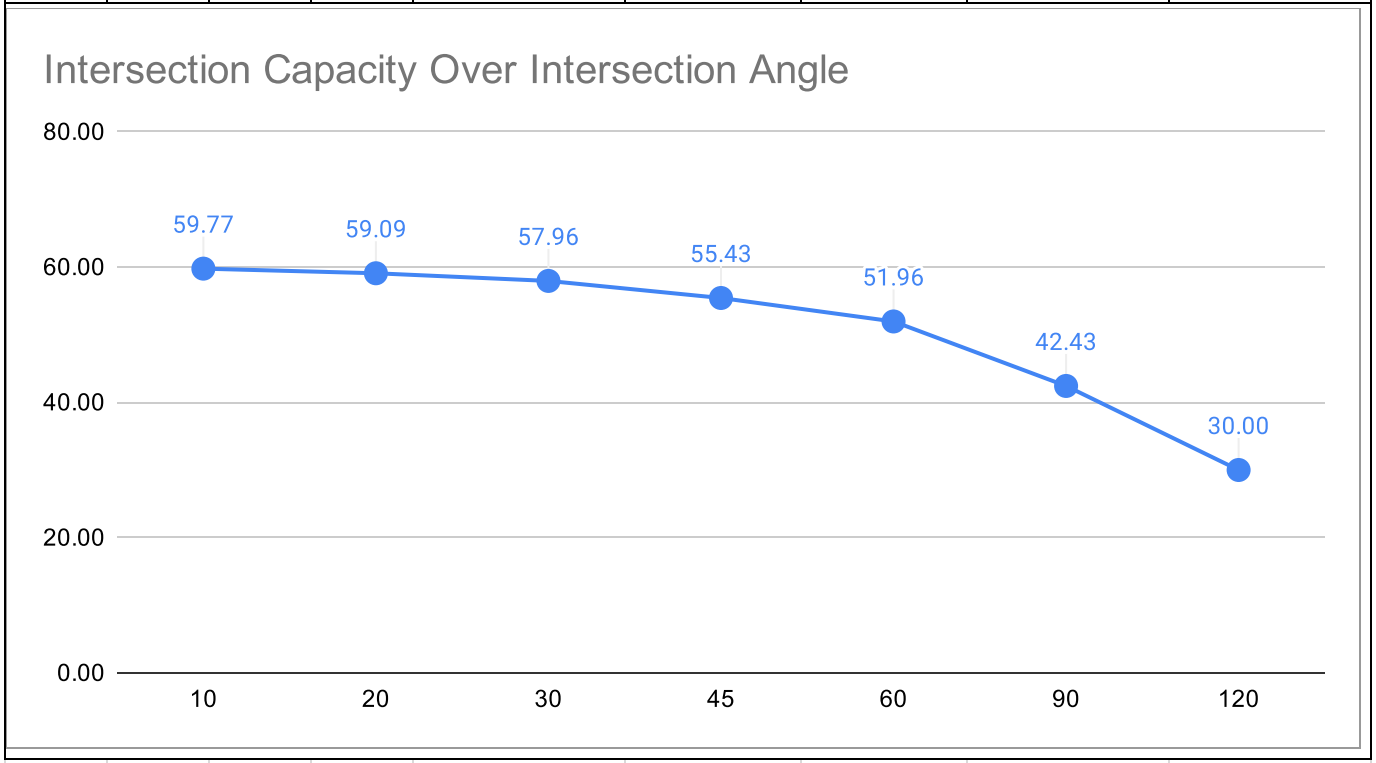
Question 1: Assuming typical values for V and X to be 600 knots and 5nm, find the values for capacity as a function of intersection angle α and plot a figure showing the INTERSECTION CAPACITY AS A FUNCTION OF α.

Ec	V	X	α (deg)	α (radians)	cos(a/2)	sec(a/2)	f1f2 (formula 1)	f1f2 (formula 2)
1	600	5	10	0.1745329252	0.9961946981	1.00	**59.77**	**59.77168189**
1	600	5	20	0.3490658504	0.984807753	1.02	**59.09**	**59.08846518**
1	600	5	30	0.5235987756	0.9659258263	1.04	**57.96**	**57.95554958**
1	600	5	45	0.7853981634	0.9238795325	1.08	**55.43**	**55.43277195**
1	600	5	60	1.047197551	0.8660254038	1.15	**51.96**	**51.96152423**
1	600	5	90	1.570796327	0.7071067812	1.41	**42.43**	**42.42640687**
1	600	5	120	2.094395102	0.5	2.00	**30.00**	**30**



Question 2: Assuming typical values for V and X to be 600 knots and 5mn, find the expected number of potential conflicts as a function of intersection angle α and plot a figure showing the potential conflict as a function of α. Assume the flow f1 = 20 aircrafts/hour, f2 = 30 aircrafts/hour.

	V	X	α (deg)	α (radians)	sec(a/2)	f1	f2	Ec
	600	5	10	0.1745329252	1.00	20	30	**10.03819838**
	600	5	20	0.3490658504	1.02	20	30	**10.15426612**
	600	5	30	0.5235987756	1.04	20	30	**10.3527618**
	600	5	45	0.7853981634	1.08	20	30	**10.823922**
	600	5	60	1.047197551	1.15	20	30	**11.54700538**
	600	5	90	1.570796327	1.41	20	30	**14.14213562**
	600	5	120	2.094395102	2.00	20	30	**20**