Dear students,

Please solve the following problems for Assignment #9 for your next DGD.

1- Tabulate station elevations for an equal-tangent parabolic curve for the data given in:

A 180-m curve, g1 = +3.00%, g1 = −2.00%, VPI station = 2 + 175, VPI elevation =686.543 m, stakeout at 30-m increments.

2- Field conditions require a highway curve to pass through a fixed point. Compute a suitable equal-tangent vertical curve and full-station elevations for problem below:

Grades of g_1 = +5.00% and g_2 = +1.50% VPI station 6+300 and elevation205.920 m. Fixed elevation 205.610 m at station 6+400. (Use 100-m stationing).

3- What are the station and elevation of the high point of the curve of Problem #1?

4- Draw the cross sections and compute V_e for the data given;

An irrigation ditch with b = 15 ft and side slopes of 2:1. Notes giving distances from centerline and cut ordinates for stations 52 + 00 and 53 + 00 are C 2.4/10.8; C 3.0; C 3.7/13.4; and C 3.1/14.2; C 3.8; C 4.1/14.2.

5- Calculate V_e and V_p for the following notes. Base is 30 ft.

12 + 90	C6.4	C3.6	C5.7
	43.6	0	40.8
12 + 30	C3.1	C4.9	C4.3
	30.4	0	35.2

Good luck,