Compute and tabulate the full station elevations for the unequal tangent vertical curve in which a +1.700% grade meets a –0.800% grade at station 13+00 with an elevation 50.50 feet. L1=600 feet and L2=400 feet. Also include a column with %grade and determine the point of 0% slope.

1. Stash initial grade (G1) in register 2.
2. Stash ending grade (G3) temporarily in register 8.
3. Stash PVI elevation temporarily in register 6.
4. Compute the station and elevation of the PVC – stash the elevation in register 3.
5. Compute the station and elevation of the PVT – stash the elevation in register 9.
6. Determine the intermediate grade (the common grade between curve 1 and curve 2 at the PVI) by computing the grade from the PVC to the PVT – stash the grade (G2) in register 5.
7. Using the PVC elevation, L1, and the grade just computed, determine the elevation on the long vertical chord at the PVI – (keep a copy on the stack and check by computing on to the PVT on this same grade with L2).
8. Average the elevation found in step 7 with the PVI elevation stashed in register 6 and stash the new elevation in register 6.
9. Compute r for curve 1 by using G2 (register 5), G1 (register 2), and L1 – stash in register 7 – divide this by 2 and stash in register 1.
10. Compute r for curve 2 by using G3 (register 8), G2 (register 5), and L2 – stash in register 8 – divide this by 2 and stash in register 4.

The resulting memory map of your storage registers is as follows:

(7) r for curve 1	(8) r for curve 2	(9) PVT elevation
–0.1667	–0.3750	47.30
(4) A for curve 2	(5) B for curve 2	(6) C for curve 2 (PVI elevation on curve)
–0.1875	+0.700	47.50
(1) A for curve 1	(2) B for curve 1	(3) C for curve 1 (PVC elevation)
–0.0833	+1.700	40.30