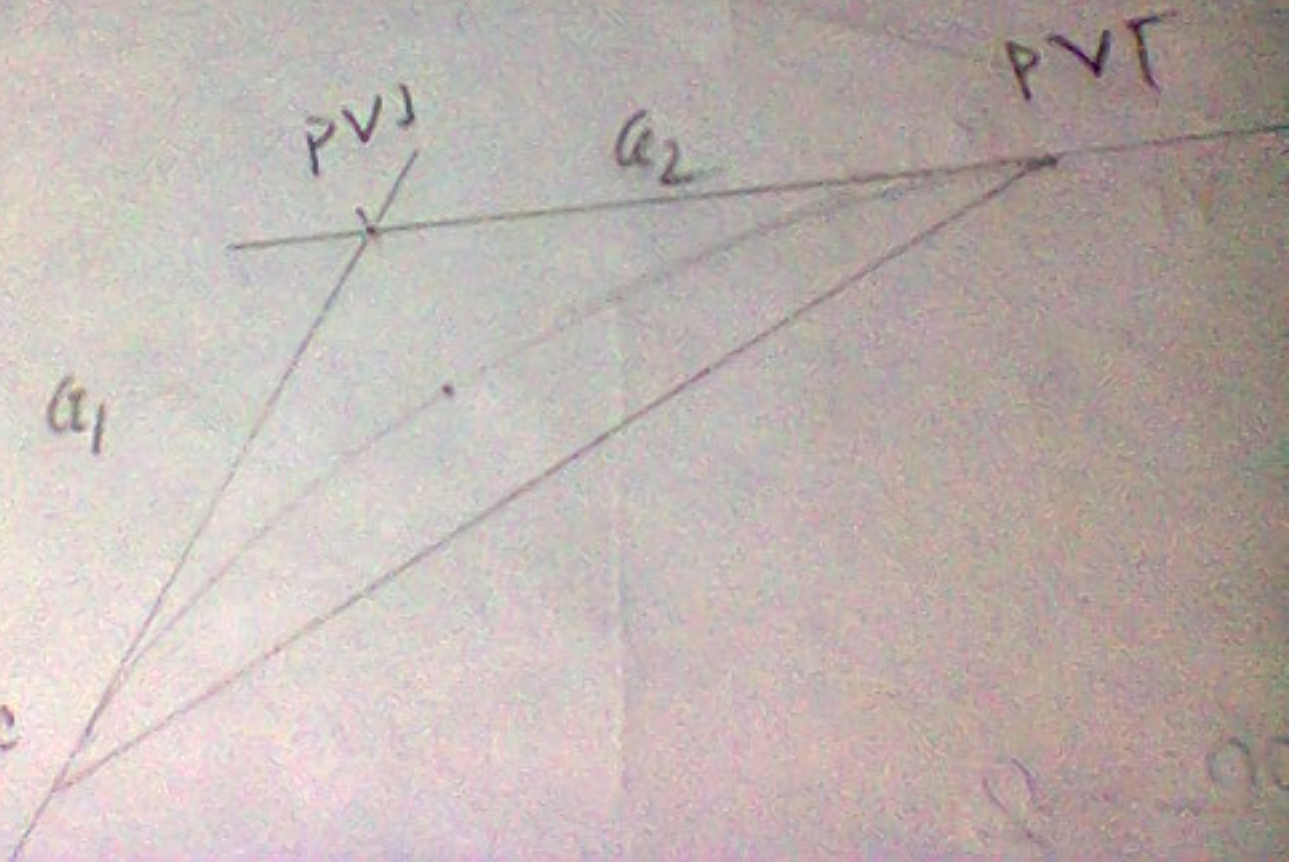
Problem: 4



$G_1 = \frac{1}{10} \times 100 = 10$

$G_2 = \frac{1}{20} \times 100 = 5$

$L = 240m$

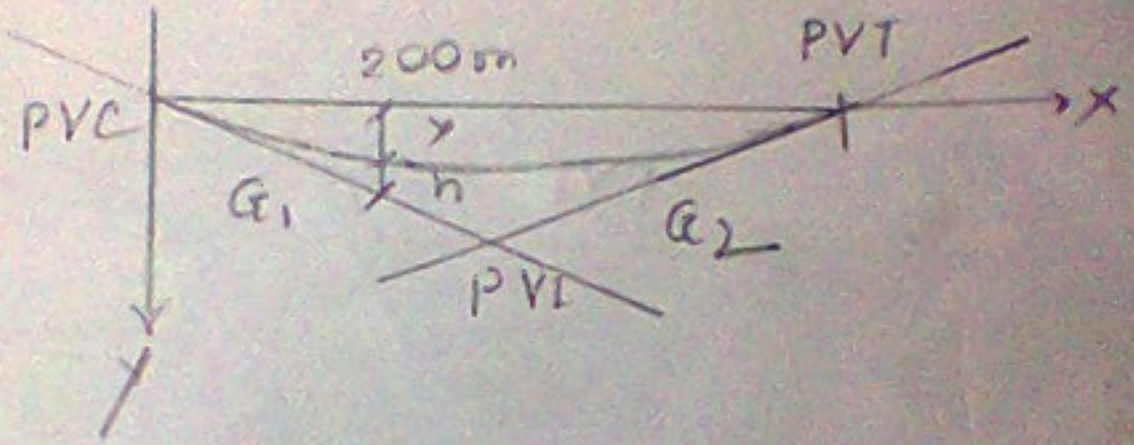
Chainage at PVI = ~~105.76~~ 1234 m

R.L of PVI = 105.76m

Again like Prob: 2

peg stations at 20 m distance.

Problm: 3⇒



Here,

$$G_1 = -\frac{1 \times 100}{50} = -2$$

$$G_2 = +\frac{1 \times 700}{75} = +1.33$$

$\frac{}{X5} = +1.33$

Chainage at PVI = 2750 m

RL of PVI = 30.35 m

Length, L = 200 m

Process same as prob : 2

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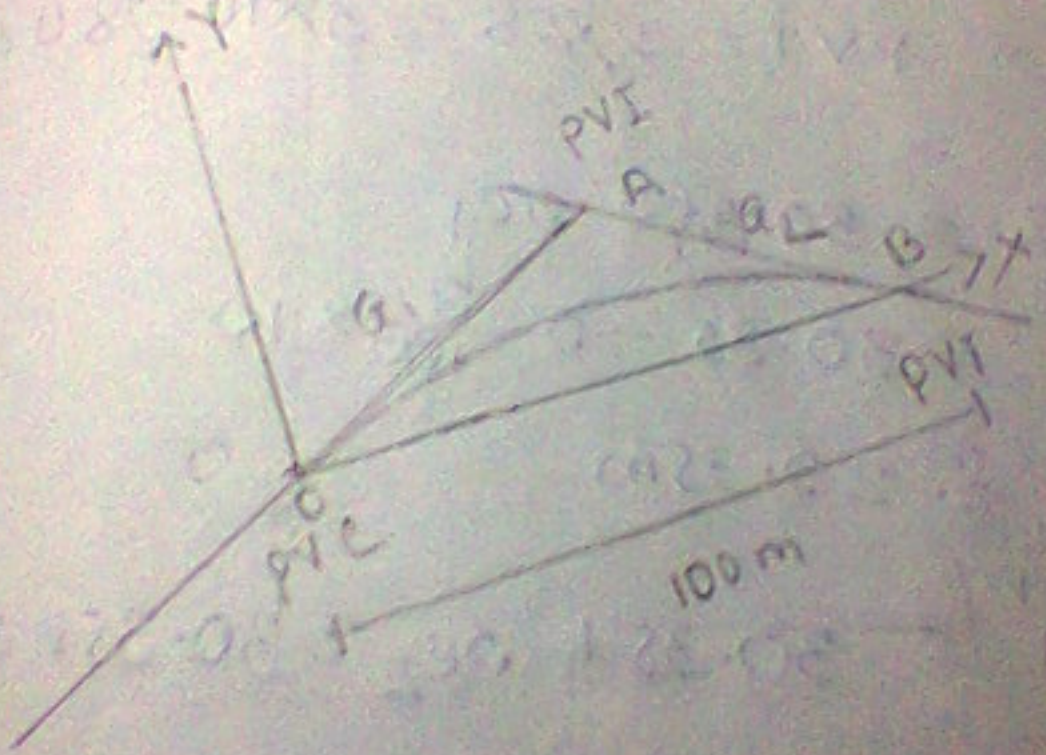
here peg stations at 20 m distance

total chord = $\frac{200}{20} = 10$

Prob: 2/ Soln:



Here,

$$G_1 = \frac{1}{50} \times 100 = 2\%$$

Here,

$G_1 = \frac{1}{30} \times 100 = 3.33\%$

$G_2 = \frac{1}{75} \times 100 = 1.33\%$

Chainage at the pt. of intersection, A = 2758

Reduced Level of PVI = 30.35 m

Length, L = 100m

Now, we consider peg stations after 10

∴ Total chords = $\frac{100}{10}$ = 10. (5 on each of PVI)

Chainage at PVC = 2758 − 5×10 = 2708 m

" " PVT = 2758 − 5×10 = 2808 m

RL of PVC = $30.35 - 5e_1$

$= 30.35 - 5\frac{2}{100} \times 10$

$= 29.35$ m

RL of PVT = $30.351 \; 5e_2 = 30.351 \; 5 \times \frac{1.333}{100}$

$= 31.015$ m

De known

$= 29.35m$

RL of PVT $= 30.351 + 3e_2 = 30.351 + 5 \times \frac{1.93 \times 10}{100}$

$= 31.015m$

We know

$y = ax^2 + bx + c$

$\frac{dy}{dx} = 2ax + b$

$\frac{d^2y}{dx^2} = 2a = \frac{|G_2 - G_1|}{L}$

$\Rightarrow a = \frac{G_2 - G_1}{2L \times 100}$

$= -3.35 \times 10^{-3}$

at ; PVC

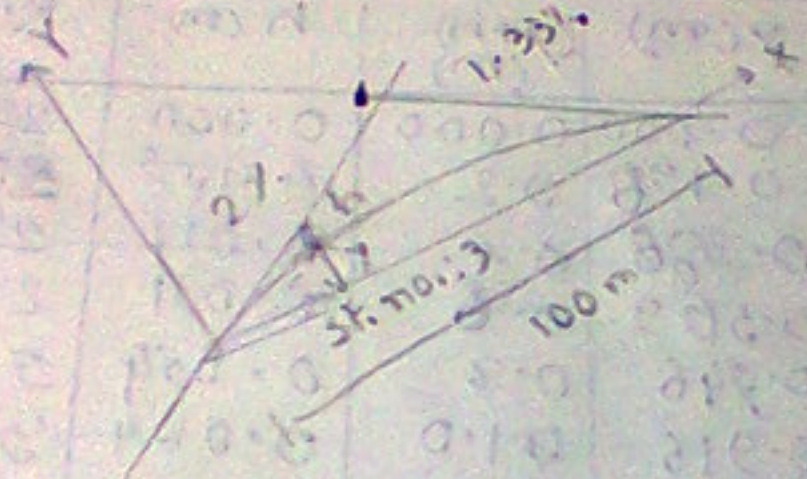
$x = 0 ; y = 0$

$\therefore c = 0$

$\frac{dy}{dx} = 2ax + b = 2\%$

$\Rightarrow 2a \cdot 0 + b = 2\%$

$\Rightarrow b = 0.02$



$a = -3.35 \times 10^{-3}$

$b = 0.02$

$c = 0$

$l = x = 3 \times 10 = 30\,m$

$y = ax^2 + bx + c$ m

$= +0.63015$ ~~0.63015~~ $0.569\,m$

$= 30m$

$y = ax^2 + bx + c$

$c = 0$

$= \pm 0.630159$ m 0.569 m

$R.L = 29.35 + 0.569$ $= 29.72$ m

$h + y = \frac{2}{100} \times 30 \Rightarrow \frac{2}{100} \times x$

$\Rightarrow h = \pm 0.00818$ 0.031 m.

station

0.569m

R.L = 29.35 + 0.569 = ~~29.70m~~ 29.92m

$h+y = \frac{2}{100} \times 30 \Rightarrow \frac{2}{100} \times x$.

$\Rightarrow h = +0.031m$

at station

6

$L = x = 6 \times 10 = 60m$

$y = ax^2 + bx + c$

RL =

$d + h + y = \frac{2}{100} \times 50$

$\Rightarrow h = ?$

$d = \frac{1.33}{100} \times (60-50)$

29.99m

$\frac{2}{100} \times 30 \Rightarrow$ $\frac{\text{ঢা}}{100} \times x$ ।

$\neq$ ০.০৩১৫ 0.031m.

$\times 10 = 60\,m$

$y = ax^2 + bx + c$

RL =

$d + h + y = \frac{2}{100} \times 60$

$\Rightarrow h = ?$

$d = \frac{1.33}{100} \times (60 - 50)$ ← সমান(=) হবে কি?