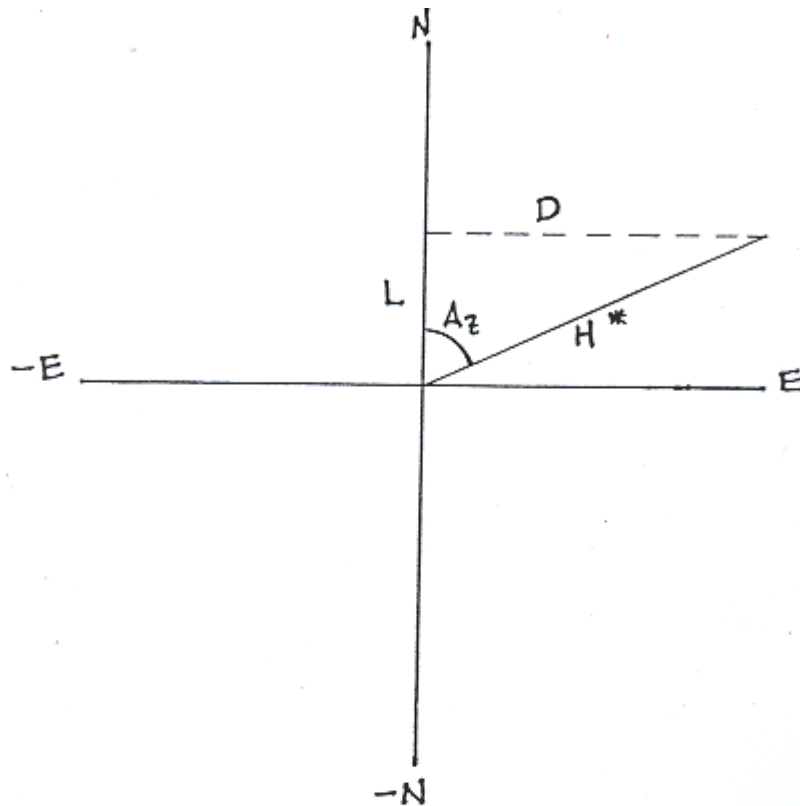


MODULE E Traverses (latitudes & departures)

Derive a formula to calculate **Latitude & Departure**



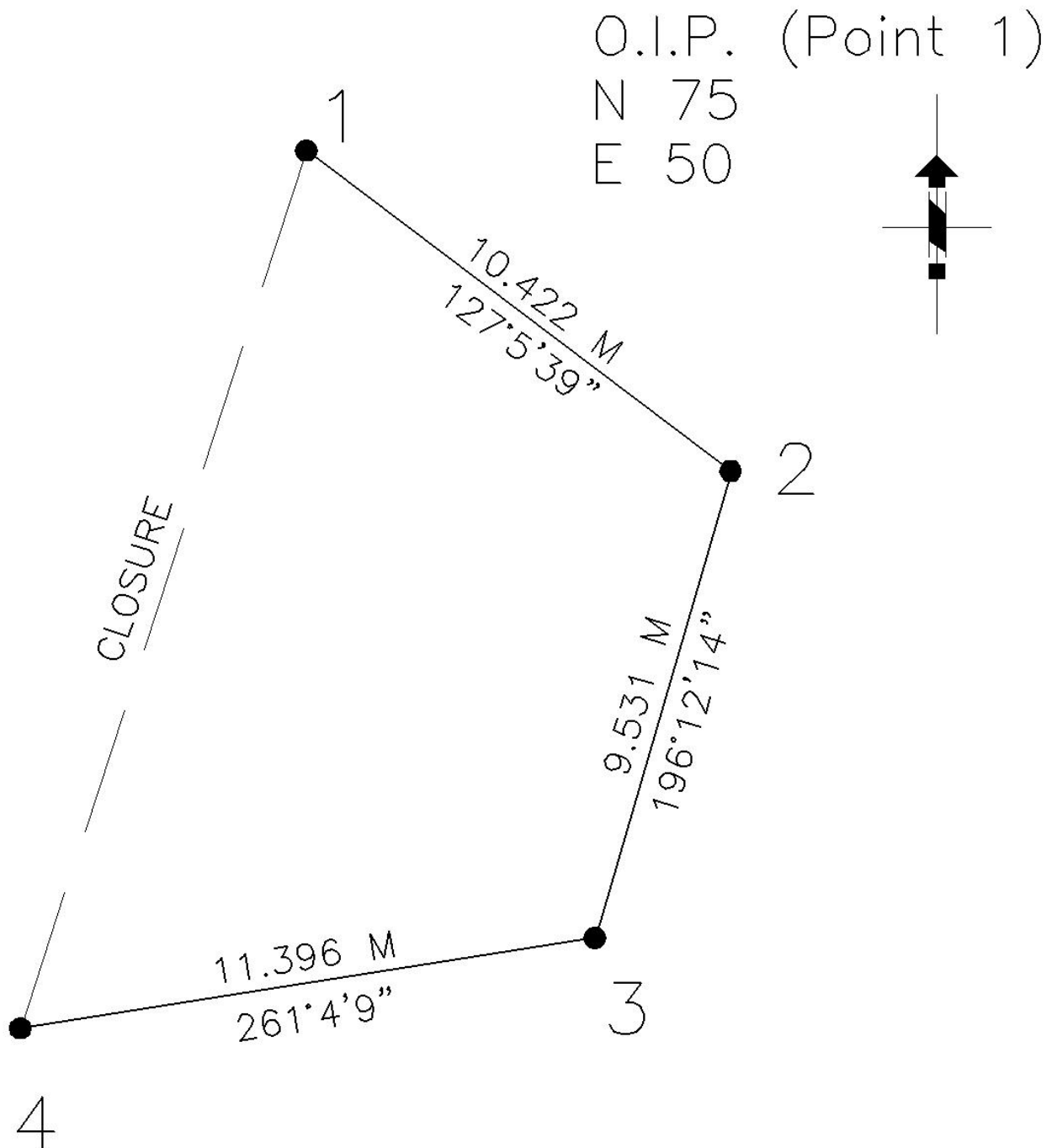
$$\sin A_2 = \frac{D}{H}$$

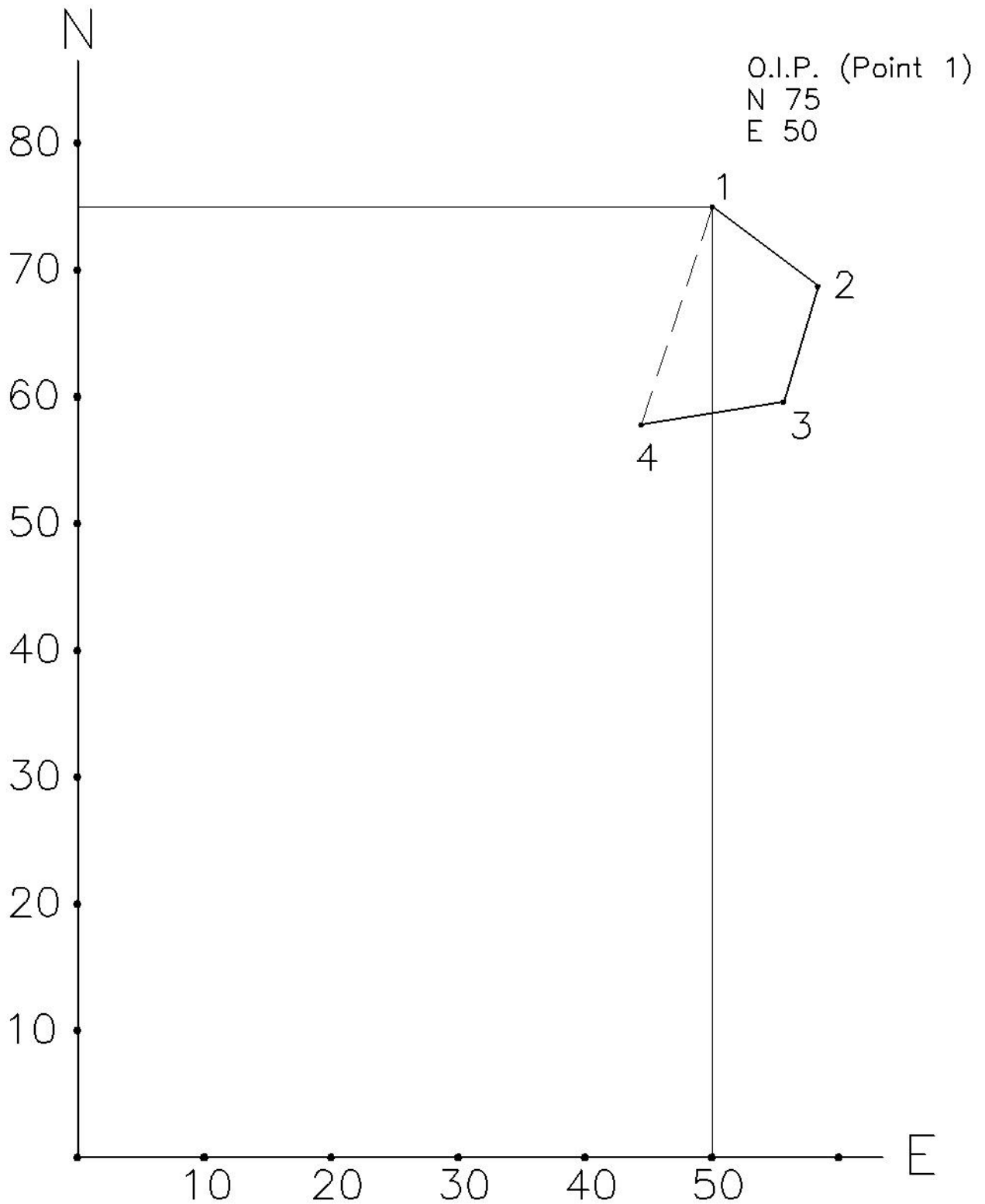
* H = length

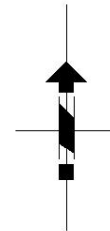
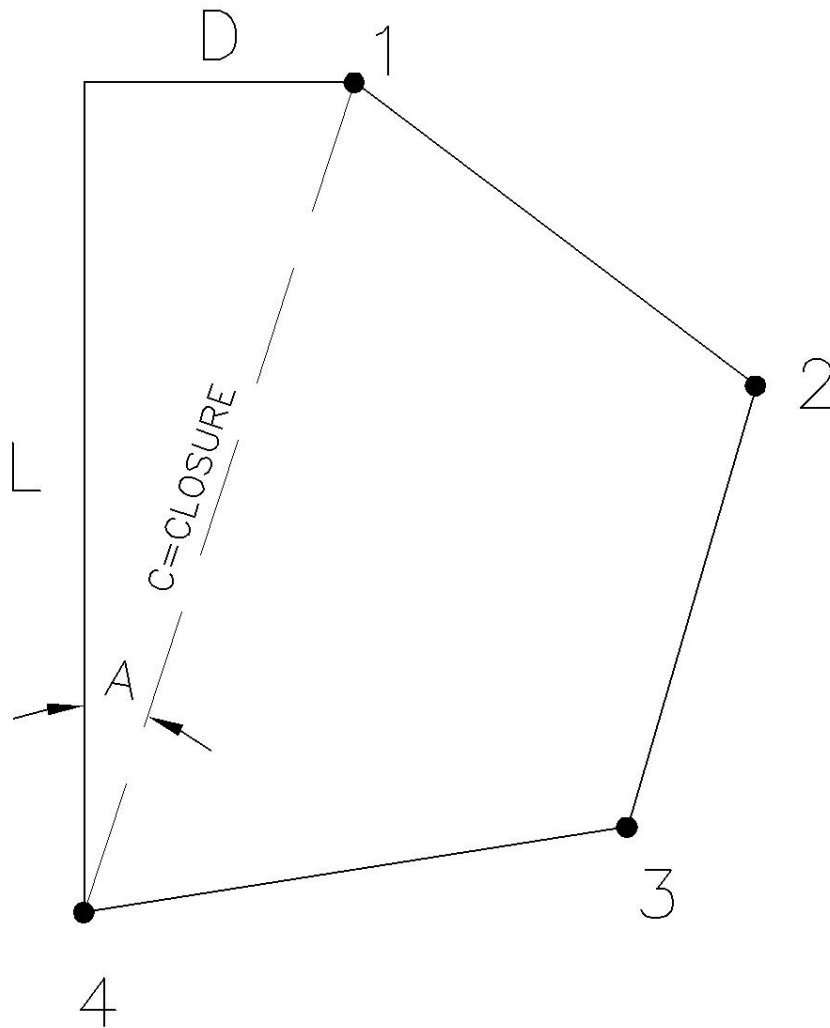
$D = H \times \sin A_2$ $L = H \times \cos A_2$

Use the following property lines to calculate **Latitude** and **Departure** of each traverse, and the **coordinates** of points **2, 3, 4** and the **closure**.

(this exercise should be done with the instructor for explanation)







LENGTH OF CLOSURE

$$L^2 + D^2 = C^2$$

$$C = \sqrt{L^2 + D^2}$$

AZIMUTH OF CLOSURE

$$\text{TAN } A = D/L$$

$$A = \text{TAN}^{-1} (D/L)$$