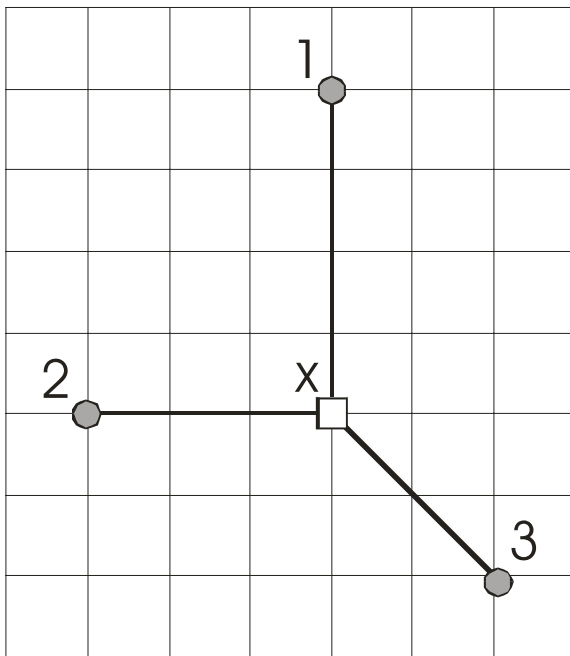


Missing Precipitation Data Example



Gage	N_i	P_i	x_i^2
1	5.0	7.0	16
2	4.5	5.0	9
3	4.0	4.0	8
x	4.20	?	

Estimate the missing precipitation at gage x using the (1) distance weighting method, and (2) normal ratio method.

Distance weighting

$$P_x = \frac{\sum_{i=1}^3 (1/x_i^2) P_i}{\sum_{i=1}^3 (1/x_i^2)} = \frac{\{(7/16) + (5/9) + (4/8)\}}{\{(1/16) + (1/9) + (1/8)\}} = \frac{1.49306}{0.29861} = 5.0 \text{ in}$$

Normal ratio

$$P_x = \frac{N_x}{3} \sum_{i=1}^3 \frac{P_i}{N_i} = \frac{4.2}{3} \left\{ \left(\frac{7}{5} \right) + \left(\frac{5}{4.5} \right) + \left(\frac{4}{4} \right) \right\} = \frac{4.2}{3} (3.511) = 4.92 \text{ in}$$