## Ranging and fixing of survey station

The object of this experiment is to set up a survey station. This is the basic step of surveying but this is also the one which has the maximum number of errors

Procedure :

1. First of all first ranging rod is established at known point $A$ and its ranging rod should be fixed at point A up to completion of work.
2. Second ranging rod is established at known point $B$ (or at known object) and a ranging rod should be fixed at point B up to completion of work.
3. Third ranging rod established at point $P$ (or any) approximately on the line of point $A B$ (by judgment) and it's not greater than one chain length from point $A$.
4. Measure the distance of AP by chain and move ranging rod at point $P$ to its next position and establishing a wooden peg or arrow at point $P$.
5. Third ranging is established at point $Q$ (or any) approximately on the line of point $A B$ (by judgment) and it's not greater than one chain length from point $P$.
6. Measure the distance of $P Q$ by chain and move ranging rod at point $Q$ to its next position and establishing a wooden peg or arrow at point Q .
7. Its procedure repeats up to reaching point $B$.
8. Third ranging rod is established at known point $C$ (or at known object) and a ranging rod should be fixed at point C up to completion of work.
9. Fourth ranging rod established at point $\mathrm{P}^{\prime}$ (or any) approximately on the line of point BC (by judgment) and it's not greater than one chain length from point $B$.
10. Measure the distance of $\mathrm{BP}^{\prime}$ by chain and move ranging rod at point $\mathrm{P}^{\prime}$ to its next position and establishing a wooden peg or arrow at point $\mathrm{P}^{\prime}$.

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11. Fourth ranging is established at point $\mathrm{Q}^{\prime}$ (or any) approximately on the line of point $B C$ (by judgment) and it's not greater than one chain length from point $\mathrm{P}^{\prime}$.
12. Measure the distance of $P^{\prime} Q^{\prime}$ by chain and move ranging rod at point $Q^{\prime}$ to its next position and establishing a wooden peg or arrow at point $\mathrm{Q}^{\prime}$.
13. Its procedure repeats up to reaching point C.

14. Fifth ranging rod established at point $\mathrm{P}^{\prime \prime}$ (or any) approximately on the line of point CA (by judgment) and it's not greater than one chain length from point $C$.
15. Measure the distance of $C P^{\prime \prime}$ by chain and move ranging rod at point $\mathrm{P}^{\prime \prime}$ to its next position and establishing a wooden peg or arrow at point $\mathrm{P}^{\prime \prime}$.
16. Fifth ranging is established at point $Q^{\prime \prime}$ (or any) approximately on the line of point CA (by judgment) and it's not greater than one chain length from point $P^{\prime \prime}$.
17. Measure the distance of $P^{\prime \prime} Q^{\prime \prime}$ by chain and move ranging rod at point $Q^{\prime \prime}$ to its next position and establishing a wooden peg or arrow at point $Q^{\prime \prime}$.
18. Its procedure repeats up to reaching point $A$.
19. Finally complete a triangle and position of point $A, B$, and $C$ is known respect to each other.
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