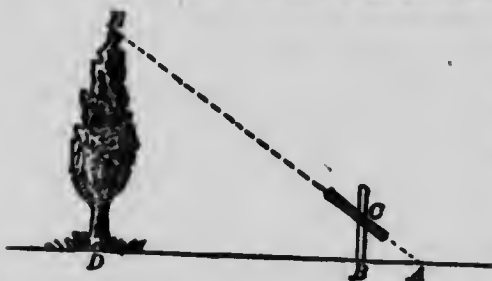
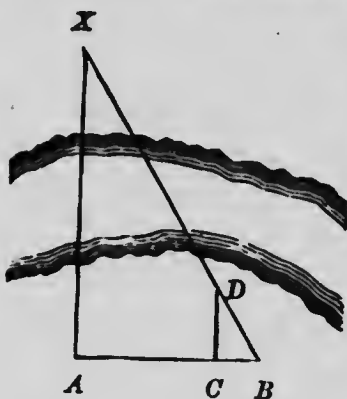


1. To find the height of the tree DE : A movable hollow tube or straight-edged beam is attached to the upright BC . How is the point A found? $BC = 6$ ft.; $AB = 8$ ft.; $BD = 36$ ft. What two similar triangles? What proportion can you make to find DE ?



2. A post 8 feet high casts a shadow 3 ft. long. A church spire at the same time casts a shadow 35 ft. long. How high is the church spire?
3. How long will the shadow of a tree 40 ft. high be when the shadow of a tree 18 ft. high is 12 ft. 5 in. long?
4. How high is a house which casts a shadow 18 ft. long when the shadow of a post $4\frac{1}{2}$ ft. high is 2 ft. 9 in. long?



5. To find the distance from A to the inaccessible point X : Draw AB perpendicular to AX . Join BX . Draw CD parallel to AX . What kind of angles at A and C ? What two similar triangles? What sides are measured? What is the proportion? Show how you can find the distance from B to X .
6. Given the lines: $AB = 52$ ft., $BC = 12$ ft., $CD = 20$ ft., to find AX .
7. Given the lines: $AB = 26$ ft., $BC = 6$ ft., $BD = 10$ ft., to find BX .
8. By drawing other figures from the points A and B , can you find the length of AX ?
9. If the point from which distance to X is desired is on the bank of the river, what lines should be drawn?
10. From any point in a lot on one side of the road, find the distance to a point in a lot on the other side of the road without crossing the road. Draw diagram illustrating all lines needed for measurement.