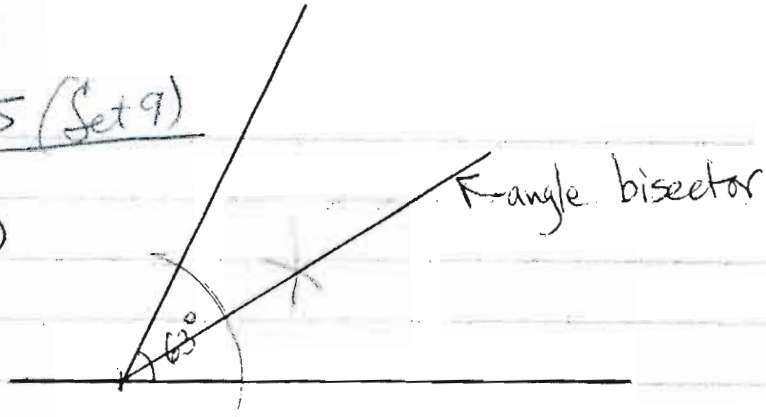
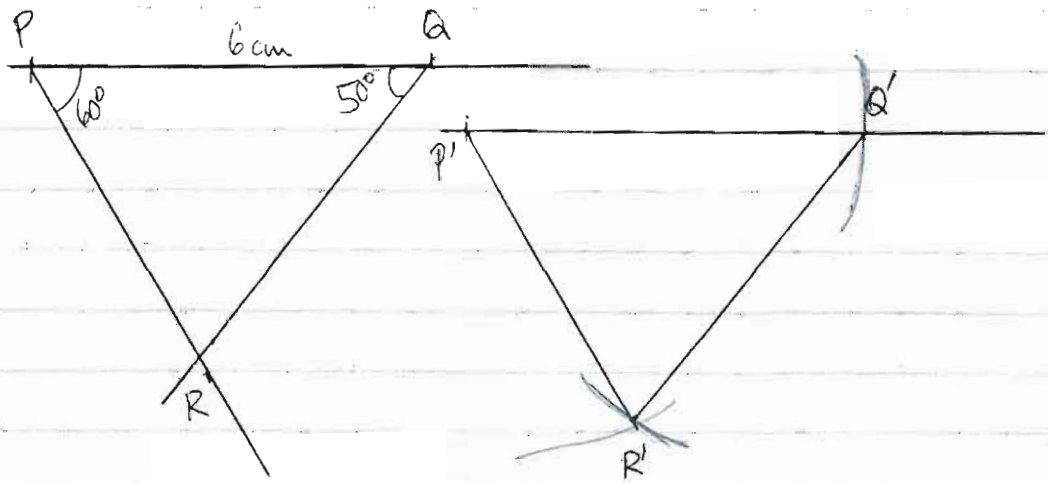
## 2.5 (Set 9)

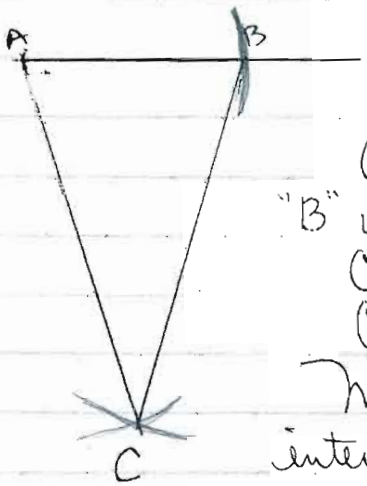
(4)




(5)



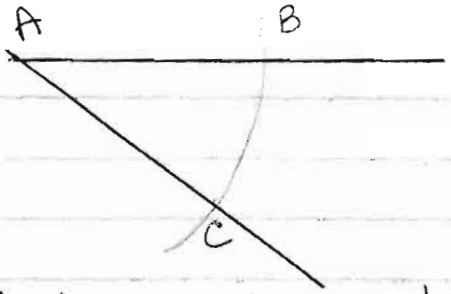

(6)

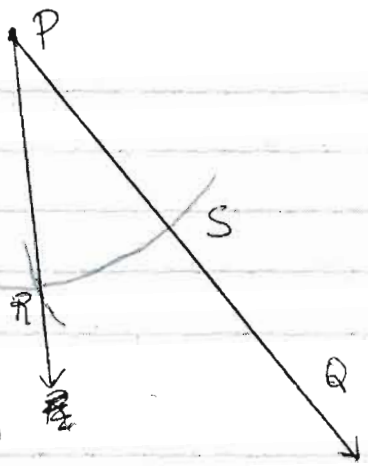



On a line, mark a pt A.
Center A, radius AB: draw circle. Mark "B" where the circle intersects the line.
Center A, radius CD: draw circle
Center B, radius CD: draw circle
Mark ~~the~~ pt where these circles intersect C. Using st-edge, draw $\overline{AC}$ and $\overline{BC}$.

$\triangle ABC$ is isosceles with base of length AB and legs of length CD.

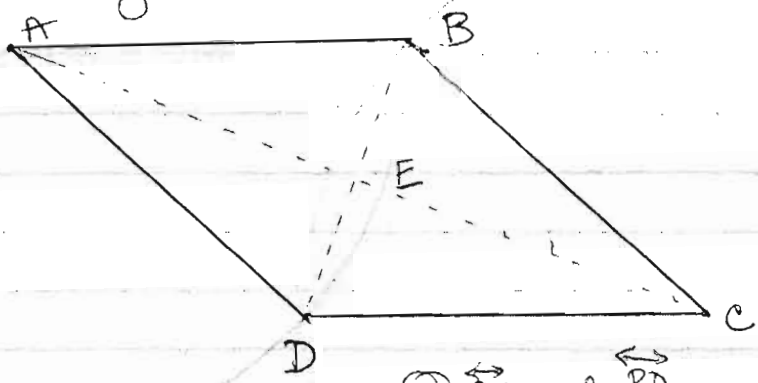
(7)




Center A, radius AB: draw circle
Center P, radius AB: draw circle
Center S, radius BC: draw circle
Intersection of circles with centers P and S, is R
Draw ray $\overrightarrow{PR}$

(8)




(a) $\overleftrightarrow{AC}$ and $\overleftrightarrow{BD}$ are lines of symm.

(b) Fold B onto D: this is a fold along $\overleftrightarrow{AC}$ such that $\overline{AB}$ lies on $\overline{AD}$ and $\overline{BC}$ lies on $\overline{DC}$
Similarly, fold A onto C: this shows that $\overleftrightarrow{BD}$ is a line of symmetry

(c) Yes, ⊥ Yes, bisect each other.
$\overline{BD}$ and $\overline{AC}$ intersect at E. The folds in (b) show that $BE=DE$ and $\angle BEC \cong \angle DEC$. Since their sum is 180°, each must be 90°
Similarly, the second fold shows that $AE=CE$ and $\angle AEB \cong \angle CEB \cong 90°$