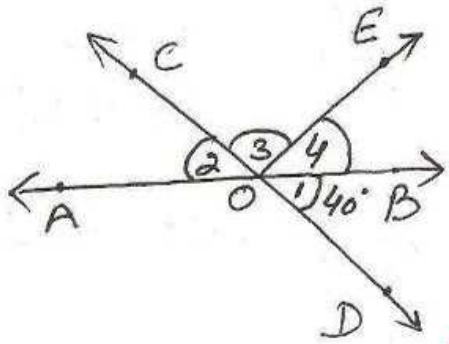
class 9 lines and angles ex 6.1 P I

(1)



to find $\angle BOE$
reflex $\angle COE$

Solution

$\angle 2 = \angle 1 = 40^\circ$ [vertically opp. $\angle$s]

$\angle 2 + \angle 4 = 70^\circ$ (given)

$40^\circ + \angle 4 = 70^\circ$

$\Rightarrow \angle 4 = 70 - 40$

$\Rightarrow \angle BOE = 30^\circ$

$\angle 2 + \angle 3 + \angle 4 = 180^\circ$ (sum of angles on a st. line)

$40 + \angle 3 + 30^\circ = 180^\circ$

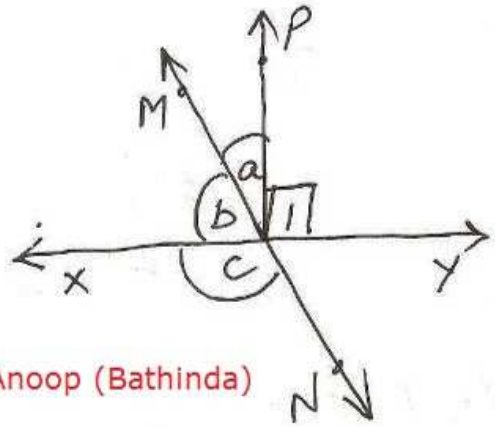
$\Rightarrow \angle 3 = 180 - 70^\circ$

$\Rightarrow \angle COE = 110^\circ$

reflex $\angle COE = 360 - 110$

$= 250^\circ$

(2)



Sol $a : b = 2 : 3$

let $a = 2x$, $b = 3x$

$\angle 1 + a + b = 180^\circ$ [Sum of angles on a st. line]

$90^\circ + 2x + 3x = 180^\circ$

$\Rightarrow 5x = 180 - 90$

$\Rightarrow x = \frac{90}{5}^{18}$

$a = 2 \times 18$

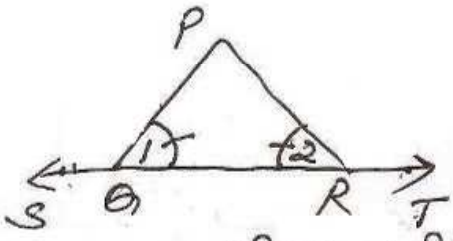
$= 36^\circ$

$c = \angle 1 + a$

$= 90 + 36$

$= 126^\circ$

(3)



to prove $\angle PQS = \angle PRT$

proof $\angle 1 = \angle 2$ (given)

$\angle 1 + \angle P = \angle 2 + \angle P$

$\angle PRT = \angle PQS$ [exterior angle prop. of Δ]