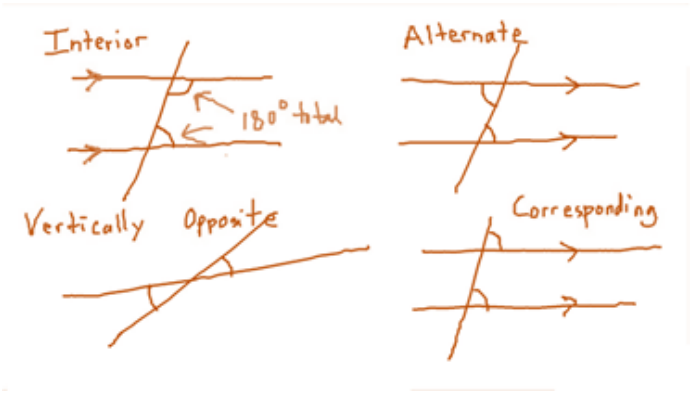
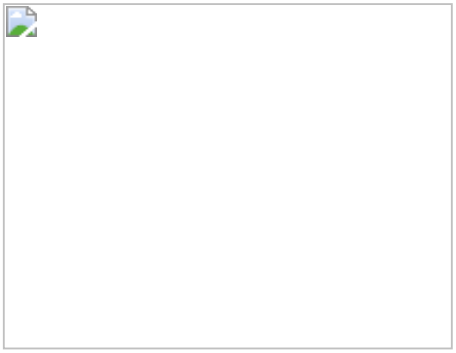
NCERT Class 9 Solutions: Line and Angles (Chapter 6) Exercise 6.2 – Part 1



Q-1 In the figure, find the value of and and then show that $AB \parallel CD$



Solution,

Give line of AB and CD and it is parallel to each other. Also give angle x and y

$x + 50° = 180°$ (Linear pair)

$x = 130°$

Also,

$y = 130°$ (Vertically opposite)

Now,

$x = y = 130°$ (Alternate interior angles)

Alternate interior angles are equal. Therefore, $AB \parallel CD$.

Q-2 In the figure, if $AB \parallel CD, CD \parallel EF$ and $y : z = 3 : 7$ find x.

Solution:

Given,

$AB \parallel CD$ and $CD \parallel EF$

$y : z = 3 : 7$

Now,

$x + y = 180°$ (Angles on the same side of transversal)

Also,

$\angle O = z$ (Corresponding angles) and,

$y + \angle O = 180°$ (Linear pair)

$$y + z = 180^\circ$$

Equation,

$y = 3x$ and $z = 7x$

$3x + 7x = 180^\circ$

$$10x = 180^\circ$$

$$x = 18^\circ$$

$\therefore y = 3 \times 18^\circ = 54^\circ (\because y = 3x)$ and

$$\therefore z = 7 \times 18^\circ = 126^\circ (\because z = 7x)$$

Now, $x + y = 180 \Rightarrow x + 54^\circ = 180^\circ \Rightarrow x = 126^\circ$