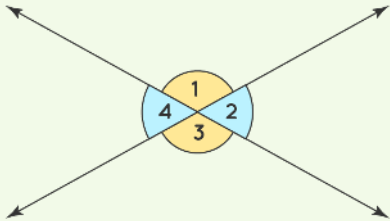


Vertical Angles

Defination

Vertical angles are a pair of opposite angles formed by intersecting lines.

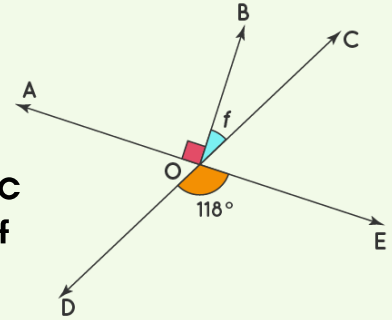


$$\begin{aligned}\angle 1 &= \angle 3 \\ \angle 2 &= \angle 4\end{aligned}$$

In the figure, $\angle 1$ and $\angle 3$ are vertical angles. So are $\angle 2$ and $\angle 4$.

Example

In the image given below, we can observe that AE and DC are two straight lines. Here, $\angle DOE$ and $\angle AOC$ are vertical angles.



$$\angle DOE = \angle AOC$$

$$118^\circ = 90^\circ + \angle f$$

$$\angle f = 118^\circ - 90^\circ$$

$$\angle f = 28^\circ$$

Therefore, $\angle f = 28^\circ$

Find all the missing angles of each.

