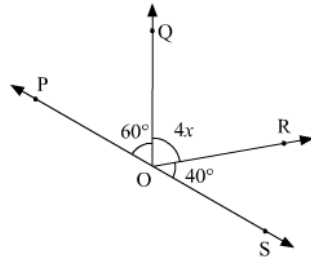Lines and Angles Ex 8.2 Q10

Answer:

The figure is given as follows:

It is given that POS is a line.

Therefore, $\angle POQ$, $\angle ROS$ and $\angle QOR$ form a linear pair. Thus, their sum must be equal to 180^0.

$\angle POQ + \angle ROS + \angle QOR = 180^0$

It is given that $\angle POQ = 60^0$, $\angle ROQ = 4x$ and $\angle SOR = 40^0$. Therefore, we get:

600+4x+400=1800   4x+1000=1800   4x=1800-
1000   4x=800   x=8004   x=200
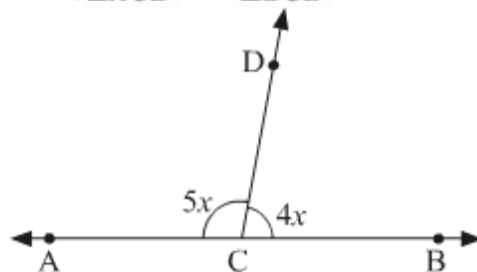
Hence, the required value of x is $\boxed{20^0}$.

Lines and Angles Ex 8.2 Q11

Answer:

It is given that ACB is a line in the figure given below.

Thus, $\angle ACD$ and $\angle BCD$ form a linear pair.

Therefore, their sum must be equal to 180^0.

Or, we can say that

$\angle ACD + \angle BCD = 180^0$

Also, $\angle ACD = 4x$ and $\angle BCD = 5x$. This further simplifies to:

$4x + 5x = 180$
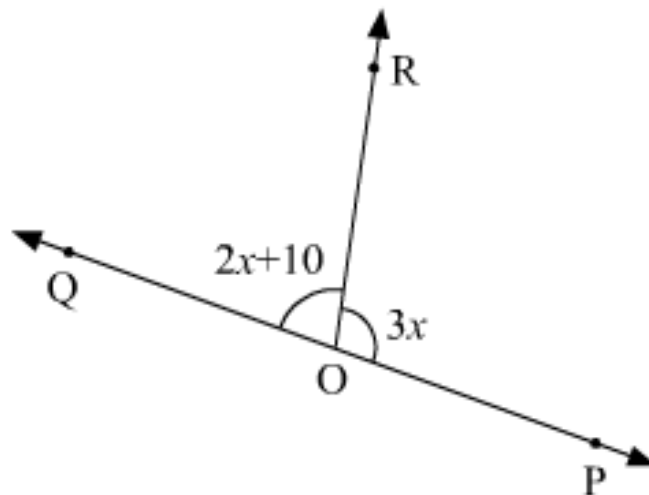
$9x = 180$

$x = \dfrac{180}{9}$

$x = 20$

Hence, the value of x is 20⁰.

Lines and Angles Ex 8.2 Q12

Answer :

Here we have *POQ* as a line

So, $\angle POR$ and $\angle QOR$ form a linear pair.

Therefore, their sum must be equal to 180^0.

Or, we can say that

$$\angle POR + \angle QOR = 180^0$$

$\angle POR + \angle QOR = 180^0$

It is given that $\angle POR = (3x)^0$ and $\angle QOR = (2x+10)^0$ .On substituting these values above, we get :

$3x + (2x+10) = 180$

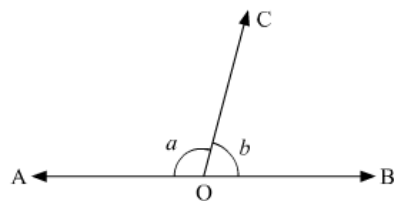$3x + 2x + 10 = 180$

$5x + 10 = 180$

$5x = 180 - 10$

$5x = 170$

$x = \dfrac{170}{5}$

$x = \boxed{34}$

Hence, the value of *x* is 34^0 .

Answer :

It is given that in the figure given below; *a* is greater than *b* by one-third of a right angle.

Or we can say that, the difference between *a* and *b* is $\dfrac{1}{3}(90^0)$.

That is;

$a - b = \dfrac{1}{3}(90^0)$

$a - b = 30^0$ (i)

Also *a* and *b* form a linear pair. Therefore, their sum must be equal to 180^0.

We can say that:

$a + b = 180^0$ (ii)

********** END *********