Lines and Angles Ex 8.1 Q7

Answer :

Let the required angle be $x°$

Thus its complement becomes $(90-x)^0$

It is given that the angle x is 8 times its complementary angle, this means

$$\begin{aligned} x &= 8(90-x) \\ x &= 8(90)-8(x) \\ x &= 720-8x \\ x+8x &= 720 \\ 9x &= 720 \\ x &= \boxed{80} \end{aligned}$$

Hence, the required angle measures $\boxed{80^0}$.

Lines and Angles Ex 8.1 Q8

Answer :

It is given that $(2x-10)^0$ and $(x-5)^0$ are complementary angles.

Therefore, their sum must be equal to 90°.

Thus,

$$\begin{aligned} (2x-10)+(x-5) &= 90 \\ 2x+x-10-5 &= 90 \\ 3x-15 &= 90 \\ 3x &= 90+15 \\ 3x &= 105 \\ x &= \frac{105}{3} \\ x &= \boxed{35} \end{aligned}$$

Hence the value of x is $\boxed{35^0}$.

Lines and Angles Ex 8.1 Q9

Answer :

Let the angle measures $x°$

Therefore, the measure of its complementary angle becomes $(90-x)^0$

Also, supplement of its thrice means $(180-3x)^0$

According to the question,

$$\begin{aligned} 90-x &= 180-3x \\ -x+3x &= 180-90 \\ 2x &= 90 \\ x &= \frac{90}{2} \\ x &= \boxed{45} \end{aligned}$$

Hence, the required angle measures $\boxed{45^0}$.

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