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

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

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,

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

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,

$$90-x = 180-3x$$
$$-x+3x = 180-90$$
$$2x = 90$$
$$x = \frac{90}{2}$$
$$x = \boxed{45}$$

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

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