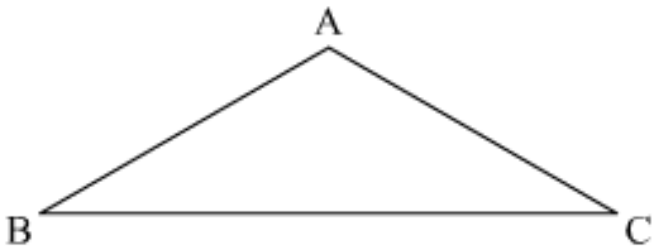
Congruent Triangles Ex 10.1 Q5

Answer :

In ΔABC, it is given that

$\angle A = 120^0$, and $AB = AC$

We have to find $\angle B$, and $\angle C$



Since $\angle A = 120^0$ and $AB = AC$

Then $\angle B = \angle C$ (as AB = AC)

Now

$\angle A + \angle B + \angle C = 180^0$ (By property of triangle)

Thus,

$120^0 + \angle B + \angle C = 180^0$, as $\angle A = 120^0$ (given)

So, $\angle B + \angle C = 60^0$

Since, $\angle B = \angle C$, so

$2\angle B = 60^0$

$\angle B = 30^0$

Hence $\boxed{\angle B = \angle C = 30^0}$.

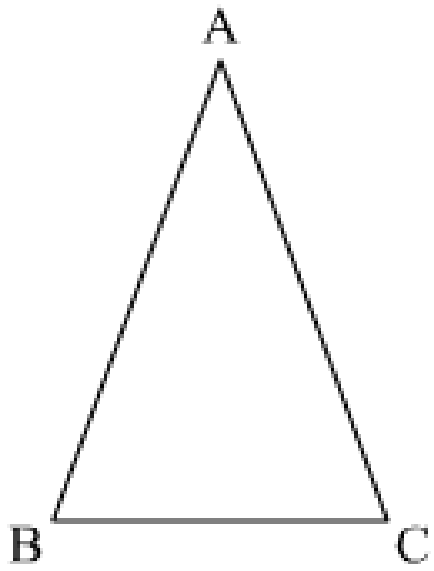
Congruent Triangles Ex 10.1 Q6

Answer :

In ΔABC it is given that

$\angle B = 70^0$, and $AB = AC$

We have to find $\angle A$.



Since $AB = AC$

Then $\angle B = \angle C$ (isosceles triangles)

Now

$\angle B = \angle C = 70^0$ (As $\angle B = 70^0$ given)

Thus

$\angle A + \angle B + \angle C = 180^0$ (Property of triangle)

$\angle A + 70^0 + 70^0 = 180^0$

$\angle A + 140^0 = 180^0$

$\angle A = 180^0 - 140^0$

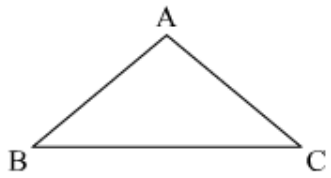
$\angle A = 40^0$

Hence $\boxed{\angle A = 40^0}$.

Congruent Triangles Ex 10.1 Q7

Answer :

Suppose in the isosceles triangle ΔABC it is given that $\angle A = 100^0$
We have to find the base angle.



Now vertical angle $\angle A = 100^0$ (given)
And $AB = AC$
Since $AB = AC$ then $\angle B = \angle C$
Now
$\angle A + \angle B + \angle C = 180^0$ (By property of triangle)
So

$$100^0 + 2\angle B = 180^0$$
$$2\angle B = 180^0 - 100^0$$
$$2\angle B = 80^0$$
$$\angle B = 40^0$$

Hence the base angle is $\boxed{\angle B = 40^0}$.

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