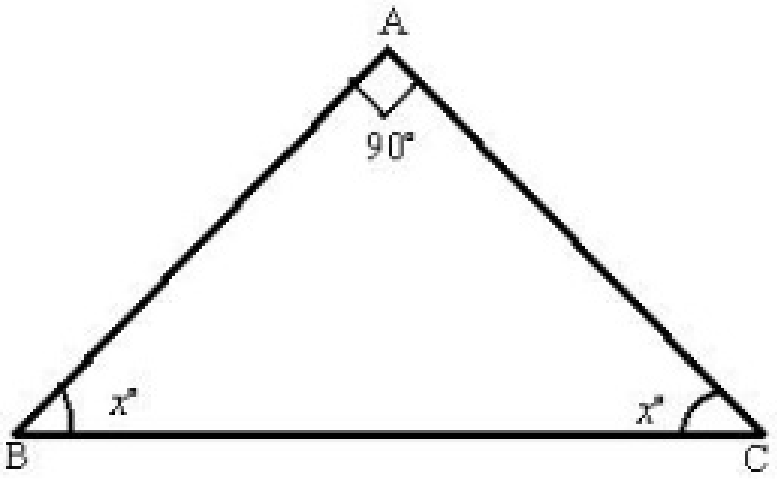
Exercise 5A

Question 5:



In a right angled isosceles triangle, the vertex angle is ∠A = 90° and the other two base angles are equal.
Let x° be the base angle and we have, ∠B = ∠C = 90°.
By angle sum property of a triangle, we have

$$\begin{aligned}
&\angle A + \angle B + \angle C = 180^\circ \\
\Rightarrow\ & 90^\circ + x^\circ + x^\circ = 180^\circ \\
\Rightarrow\ & 90^\circ + 2x^\circ = 180^\circ \\
\Rightarrow\ & 2x^\circ = 180^\circ - 90^\circ \\
\Rightarrow\ & 2x^\circ = 90^\circ \\
\Rightarrow\ & x^\circ = \frac{90^\circ}{2} \\
\Rightarrow\ & x^\circ = 45^\circ
\end{aligned}$$

Thus, we have, $\angle B = \angle C = 45^\circ$

Question 6:
Given: ABC is an isosceles triangle in which AB=AC and BC
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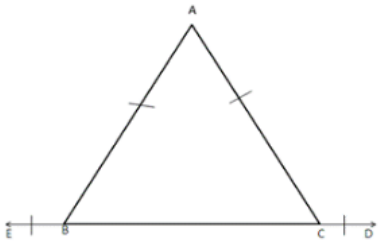

To Prove: ∠EBA=∠DCA
Proof : In ΔABC we have,

$$AB = AC$$

$$\Rightarrow \angle B = \angle C$$

Now exterior $\angle EBA = \angle A + \angle C = \angle A + \angle B$

$$[\because \angle B = \angle C]$$

and exterior $\angle DCA = \angle A + \angle B$

$\Rightarrow$ Exterior$\angle EBA$ = Exterior $\angle DCA$.

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