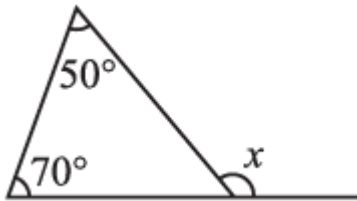


EXERCISE 6.2

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1. Find the value of the unknown exterior angle x in the following diagram:

(i)



Solution:-

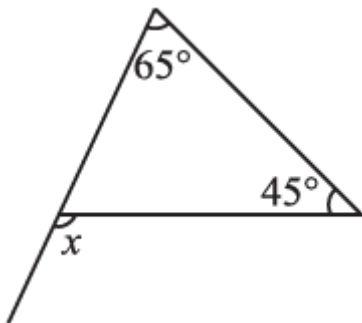
We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

$$= x = 50^\circ + 70^\circ$$

$$= x = 120^\circ$$

(ii)



Solution:-

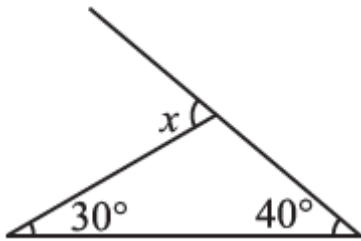
We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

$$= x = 65^\circ + 45^\circ$$

$$= x = 110^\circ$$

(iii)



Solution:-

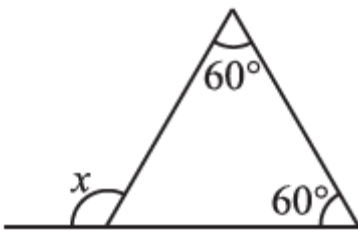
We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

$$= x = 30^\circ + 40^\circ$$

$$= x = 70^\circ$$

(iv)



Solution:-

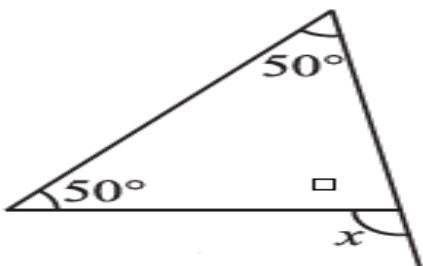
We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

$$= x = 60^\circ + 60^\circ$$

$$= x = 120^\circ$$

(v)



Solution:-

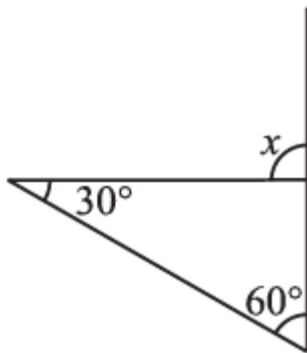
We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

$$= x = 50^\circ + 50^\circ$$

$$= x = 100^\circ$$

(vi)



Solution:-

We know that,

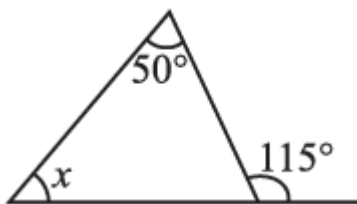
An exterior angle of a triangle is equal to the sum of its interior opposite angles.

$$= x = 30^\circ + 60^\circ$$

$$= x = 90^\circ$$

2. Find the value of the unknown interior angle x in the following figures:

(i)



Solution:-

We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

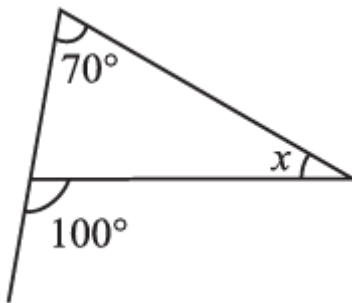
$$= x + 50^\circ = 115^\circ$$

By transposing 50° from LHS to RHS, it becomes $- 50^\circ$

$$= x = 115^\circ - 50^\circ$$

$$= x = 65^\circ$$

(ii)



Solution:-

We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

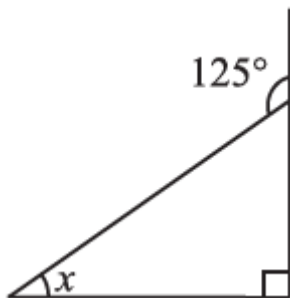
$$= 70^\circ + x = 100^\circ$$

By transposing 70° from LHS to RHS, it becomes $- 70^\circ$

$$= x = 100^\circ - 70^\circ$$

$$= x = 30^\circ$$

(iii)



Solution:-

We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

The given triangle is a right-angled triangle. So, the angle opposite to the x is 90° .

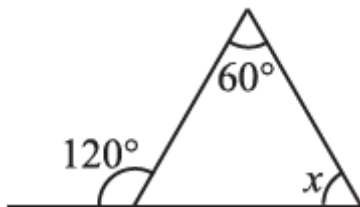
$$= x + 90^\circ = 125^\circ$$

By transposing 90° from LHS to RHS, it becomes $- 90^\circ$

$$= x = 125^\circ - 90^\circ$$

$$= x = 35^\circ$$

(iv)



Solution:-

We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

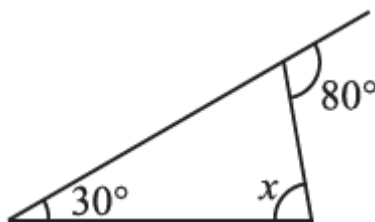
$$= x + 60^\circ = 120^\circ$$

By transposing 60° from LHS to RHS, it becomes $- 60^\circ$

$$= x = 120^\circ - 60^\circ$$

$$= x = 60^\circ$$

(v)



Solution:-

We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

The given triangle is a right-angled triangle. So, the angle opposite to the x is 90° .

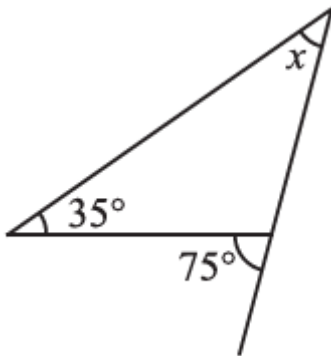
$$= x + 30^\circ = 80^\circ$$

By transposing 30° from LHS to RHS, it becomes $- 30^\circ$

$$= x = 80^\circ - 30^\circ$$

$$= x = 50^\circ$$

(vi)



Solution:-

We know that,

An exterior angle of a triangle is equal to the sum of its interior opposite angles.

The given triangle is a right-angled triangle. So, the angle opposite to the x is 90° .

$$= x + 35^\circ = 75^\circ$$

By transposing 35° from LHS to RHS, it becomes $- 35^\circ$

$$= x = 75^\circ - 35^\circ$$

$$= x = 40^\circ$$