

The measure of an exterior angle of a triangle is equal to sum of the measures of opposite interior angles.

Exterior angle : $\angle ACX$

Opposite interior angles : $\angle A$ and $\angle B$

Exterior angle = Sum of opposite interior angles

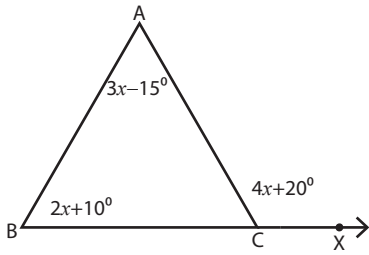
$$\angle ACX = \angle A + \angle B$$

$$4x+20^\circ = 2x+10^\circ + 3x-15^\circ$$

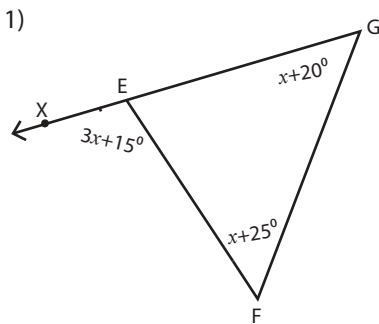
$$4x+20^\circ = 5x-5^\circ$$

$$5x-4x = 20^\circ + 5^\circ$$

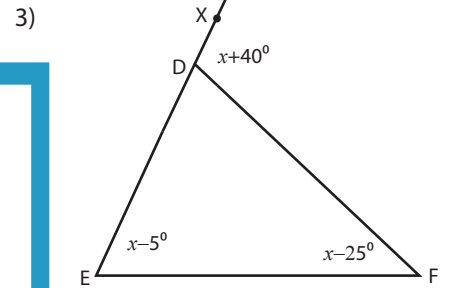
$$x = 25^\circ, \angle ACX = 4 \times 25^\circ + 20^\circ = 120^\circ$$



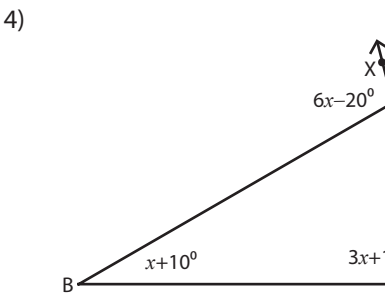
Find the value of x and unknown exterior angle for each triangle.



$x = \underline{\hspace{2cm}}$; $\angle FEX = \underline{\hspace{2cm}}$



$= \underline{\hspace{2cm}}$; $\angle FDX = \underline{\hspace{2cm}}$



$x = \underline{\hspace{2cm}}$; $\angle BAX = \underline{\hspace{2cm}}$

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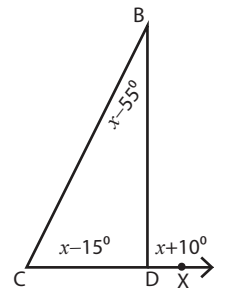
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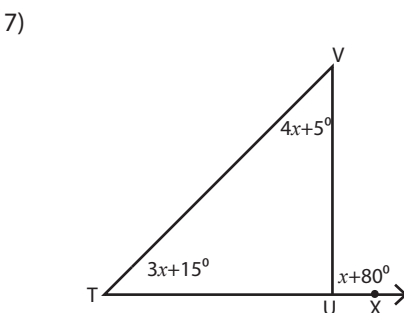
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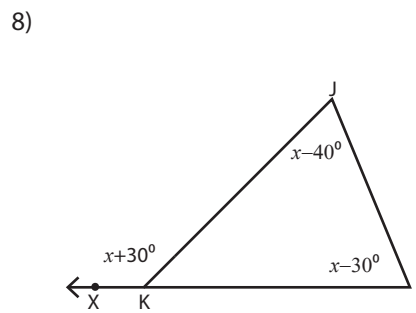
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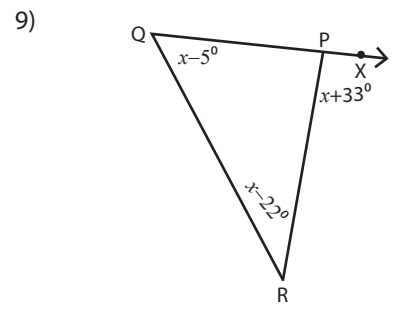
$= \underline{\hspace{2cm}}$; $\angle BDX = \underline{\hspace{2cm}}$



$x = \underline{\hspace{2cm}}$; $\angle VUX = \underline{\hspace{2cm}}$



$x = \underline{\hspace{2cm}}$; $\angle JKX = \underline{\hspace{2cm}}$



$x = \underline{\hspace{2cm}}$; $\angle RPX = \underline{\hspace{2cm}}$

Triangle - Exterior Angle

The measure of an exterior angle of a triangle is equal to sum of the measures of opposite interior angles.

Exterior angle : $\angle ACX$

Opposite interior angles : $\angle A$ and $\angle B$

Exterior angle = Sum of opposite interior angles

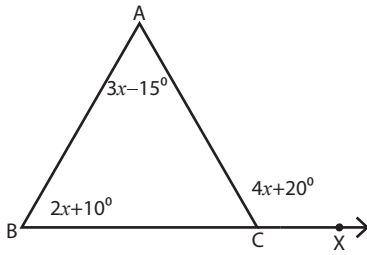
$$\angle ACX = \angle A + \angle B$$

$$4x+20^\circ = 2x+10^\circ+3x-15^\circ$$

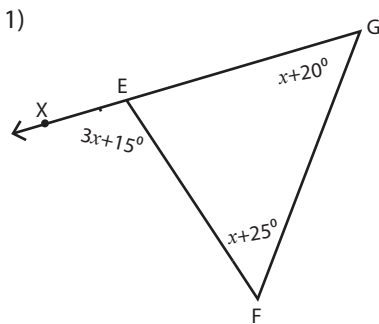
$$4x+20^\circ = 5x-5^\circ$$

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$$x = 25^\circ, \angle ACX = 4 \times 25^\circ + 20^\circ = 120^\circ$$



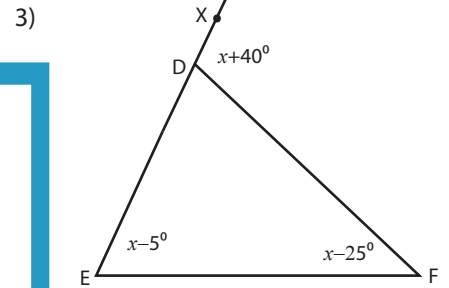
Find the value of x and unknown exterior angle for each triangle.



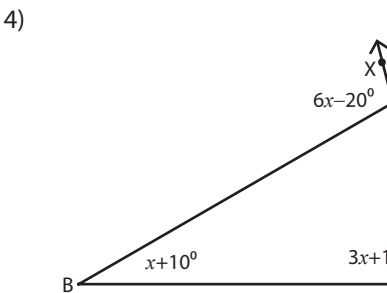
$x = 30^\circ$; $\angle FEX = 110^\circ$



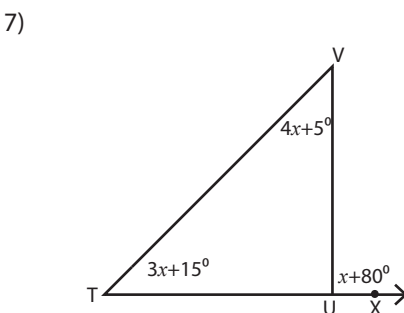
$x = 20^\circ$; $\angle BAX = 100^\circ$



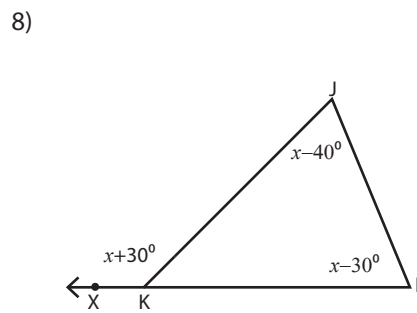
$x = 70^\circ$; $\angle FDX = 110^\circ$



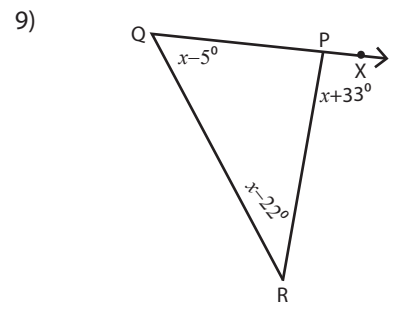
$x = 20^\circ$; $\angle BAX = 100^\circ$



$x = 10^\circ$; $\angle VUX = 90^\circ$



$x = 100^\circ$; $\angle JKX = 130^\circ$



$x = 60^\circ$; $\angle RPX = 93^\circ$

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