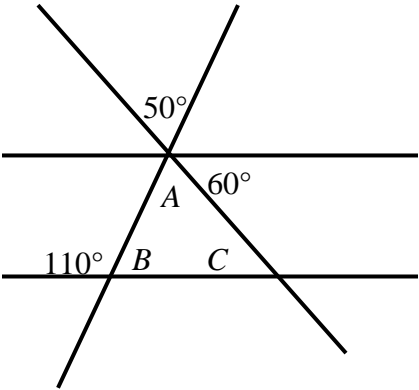


Combining Properties

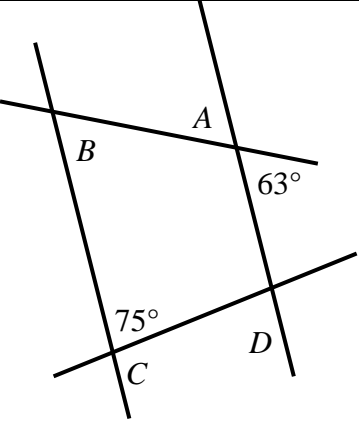
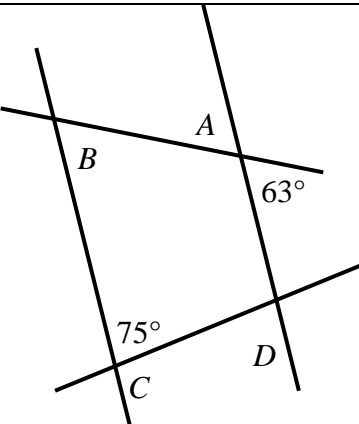
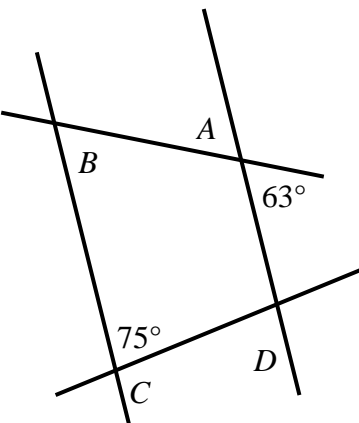
1. Determine the measure of angles  $A$ ,  $B$ , and  $C$  in the diagram provided. Provide an explanation of how each angle measure is determined, using appropriate terminology and properties.

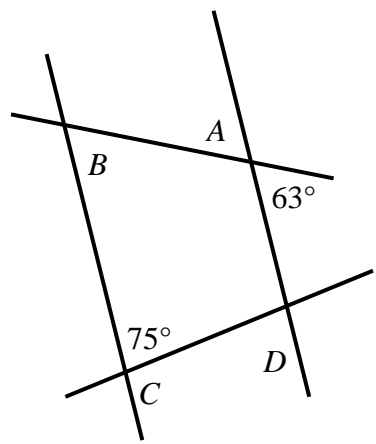


Angle	Diagram	Properties Used	Angle Measure
A		Angle A is vertically opposite the $50^\circ$ angle in the original diagram.	$\angle A = 50^\circ$
B		Angle B is supplementary with the $110^\circ$ angle in the original diagram. $\angle B = 180^\circ - 110^\circ$	$\angle B = 70^\circ$

C		<p>Angle C is an alternate interior angle with <math>60^\circ</math>.</p> <p><b>Alternative Method</b> The sum of the angle measures in a triangle is <math>180^\circ</math>. <math>\angle C = 180^\circ - 50^\circ - 70^\circ</math></p>	$\angle C = 60^\circ$
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2. Determine the measure of angles  $A$ ,  $B$ ,  $C$ , and  $D$  in the diagram provided. Provide an explanation of how each angle measure is determined, using appropriate terminology and properties.

Angle	Diagram	Transversal rules used	Angle Measure
$A$		<i>Angle A is vertically opposite the <math>63^\circ</math> angle in the original diagram.</i>	$\angle A = 63^\circ$
$B$		<i>Angle B is an alternate interior angle with <math>\angle A</math>.</i>	$\angle B = 63^\circ$
$C$		<i>Angle C is supplementary with the <math>75^\circ</math> angle in the original diagram. <math>\angle C = 180^\circ - 75^\circ</math></i>	$\angle C = 105^\circ$

$D$		<i>Angle <math>D</math> is an alternate interior angle with the <math>75^\circ</math> angle in the original diagram.</i>	$\angle D = 75^\circ$
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