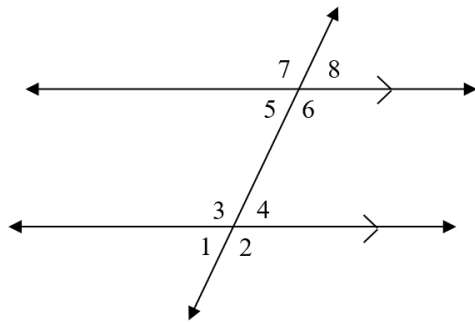


Key

Name: _____ Date: _____ Period: _____

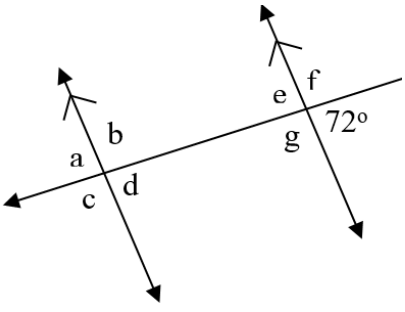
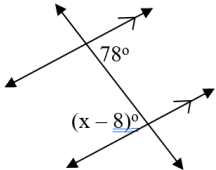
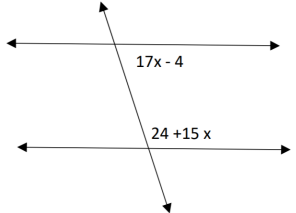
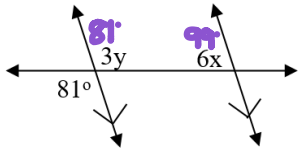
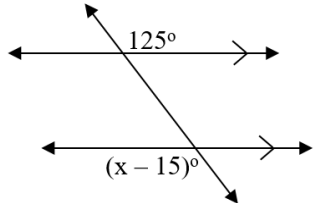
Angles Formed by Parallel Lines and Transversals Notes



If two parallel lines are cut by a transversal, then the ...

	<p>Vertical Angles</p>	<p>... Congruent _____</p> <p>Angle Pairs:</p> <p>$\angle 1 \cong \angle 4$ $\angle 6 \cong \angle 7$</p> <p>$\angle 2 \cong \angle 3$ $\angle 5 \cong \angle 8$</p>
	<p>Corresponding Angles</p>	<p>... congruent _____</p> <p>Angle Pairs:</p> <p>$\angle 1 \cong \angle 5$ $\angle 3 \cong \angle 7$</p> <p>$\angle 2 \cong \angle 6$ $\angle 4 \cong \angle 8$</p>
	<p>Alternate Interior Angles</p>	<p>... Congruent _____</p> <p>Angle Pairs:</p> <p>$\angle 4 \cong \angle 5$ $\angle 6 \cong \angle 3$</p>
	<p>Alternate Exterior Angles</p>	<p>... congruent _____</p> <p>Angle Pairs:</p> <p>$\angle 1 \cong \angle 8$ $\angle 2 \cong \angle 7$</p>
	<p>Same-Side Interior Angles</p>	<p>... supplementary (add up to 180) _____</p> <p>Angle Pairs:</p> <p>$\angle 5 \cong \angle 3$ $\angle 6 \cong \angle 4$</p>
	<p>Same-Side Exterior Angles</p>	<p>... supplementary (add up to 180) _____</p> <p>Angle Pairs:</p> <p>$\angle 1 \cong \angle 7$ $\angle 2 \cong \angle 8$</p>

Solving for Missing Angle Measures on Transversals Using Equations

<p>Example 1</p>  <p>Find a, b, c, d, e, f, g, and name each angle pair.</p>	<table style="width: 100%; border: none;"> <thead> <tr> <th style="text-align: left; border: none;">Angles</th> <th style="text-align: left; border: none;">Name of Angle Pairs</th> </tr> </thead> <tbody> <tr> <td style="border: none;">$\angle a \cong \angle d$</td> <td style="border: none;"><u>Vertical angles</u></td> </tr> <tr> <td style="border: none;">$\angle a \cong \angle e$</td> <td style="border: none;"><u>Corresponding angles</u></td> </tr> <tr> <td style="border: none;">$\angle b \ \& \ \angle e$</td> <td style="border: none;"><u>Same side interior</u></td> </tr> <tr> <td style="border: none;">$\angle a \ \& \ \angle f$</td> <td style="border: none;"><u>Same side exterior</u></td> </tr> <tr> <td style="border: none;">$\angle b \cong \angle g$</td> <td style="border: none;"><u>alternate interior</u></td> </tr> <tr> <td style="border: none;">$\angle c \cong \angle f$</td> <td style="border: none;"><u>alternate exterior</u></td> </tr> <tr> <td style="border: none;">$\angle c \ \& \ \angle d$</td> <td style="border: none;"><u>supplementary</u></td> </tr> </tbody> </table>	Angles	Name of Angle Pairs	$\angle a \cong \angle d$	<u>Vertical angles</u>	$\angle a \cong \angle e$	<u>Corresponding angles</u>	$\angle b \ \& \ \angle e$	<u>Same side interior</u>	$\angle a \ \& \ \angle f$	<u>Same side exterior</u>	$\angle b \cong \angle g$	<u>alternate interior</u>	$\angle c \cong \angle f$	<u>alternate exterior</u>	$\angle c \ \& \ \angle d$	<u>supplementary</u>
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<p>Example 2</p> <p>Solve for x and identify the angle pair</p> 	<p>Name of Angle Pair: <u>alt. interior</u> Equation: <u>$x - 8 = 78$</u></p> <p style="margin-left: 40px;"><u>congruent \cong</u></p> <p style="text-align: right; margin-right: 100px;"><u>$x - 8 = 78$</u></p> <p style="text-align: right; margin-right: 50px;"><u>$x = 86$</u></p> <p>missing angle measure: <u>78°</u></p>																
<p>Example 3</p> <p>Solve for x and identify the angle pair.</p> 	<p>Name of Angle Pair: <u>Same-side interior</u> Equation: <u>$17x - 4 + 24 + 15x = 180$</u></p> <p style="margin-left: 100px;"><u>$32x + 20 = 180$</u></p> <p style="margin-left: 100px;"><u>$32x = 160$</u></p> <p style="margin-left: 100px;"><u>$x = 5$</u></p> <p>missing angle measures: <u>81°</u> <u>99°</u></p> <p style="margin-left: 40px;"><u>$17(5) - 4$</u> <u>$24 + 15(5)$</u></p>																
<p>Example 4</p> <p>Solve for x and y. Explain.</p> 	<p style="margin-left: 40px;"><u>$3y = 81$</u></p> <p style="margin-left: 40px;"><u>$y = 27$</u></p> <p style="margin-left: 40px;"><u>Vertical \angles</u></p> <p style="margin-left: 100px;"><u>$6x + 81 = 180$</u></p> <p style="margin-left: 100px;"><u>$6x = 99$</u></p> <p style="margin-left: 100px;"><u>$x = 16.5$</u></p> <p style="margin-left: 100px;"><u>Same side interior</u></p>																
<p>Example 5</p> <p>Solve for x and explain.</p> 	<p>Name of Angle Pair: <u>Alt. Exterior \angles</u> Equation: <u>$x - 15 = 125$</u></p> <p style="margin-left: 100px;"><u>$x = 140$</u></p> <p>missing angle measure: <u>125°</u></p>																