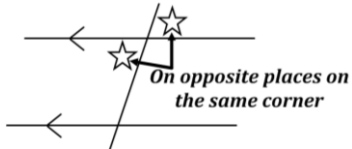
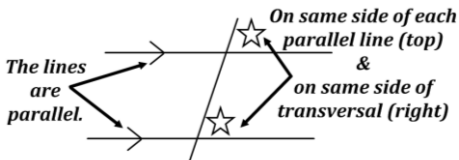
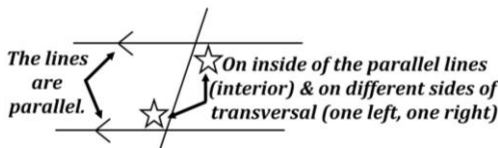
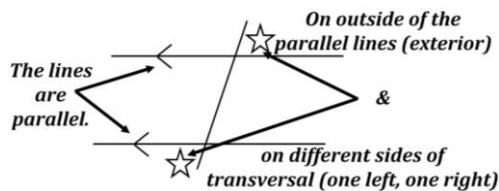
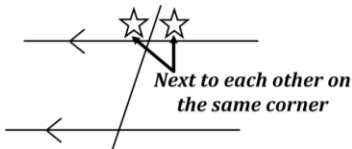
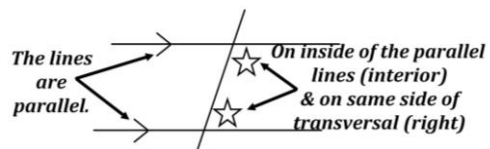
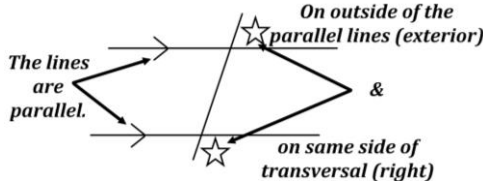


Parallel Lines Cut by a Transversal Practice

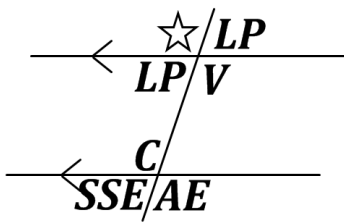
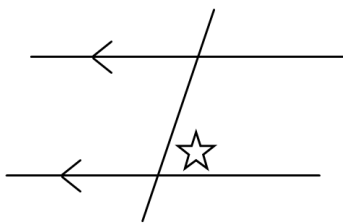
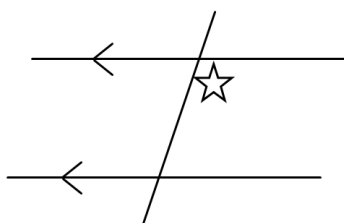
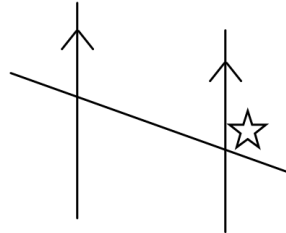
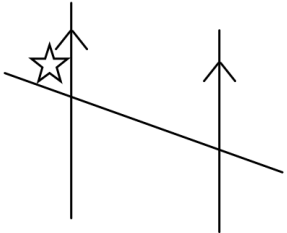
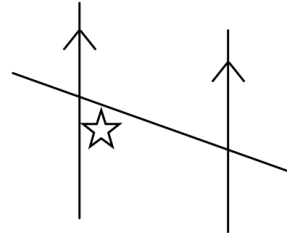
Angle pairs that are congruent when the lines are parallel:

<p><b>Vertical Angles:</b></p> 	<p><b>Corresponding Angles:</b></p> 
<p><b>Alternate Interior Angles:</b></p> 	<p><b>Alternate Exterior Angles:</b></p> 

Angle pairs that add to equal 180° when the lines are parallel:

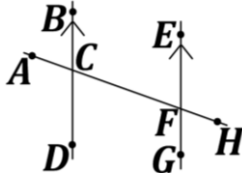
<p><b>Linear Pair Angles:</b></p> 	
<p><b>Same Side Interior Angles:</b></p> 	<p><b>Same Side Exterior Angles:</b></p> 

For each parallel lines cut by a transversal set, mark all possible angle pair locations, using the starred angle. Use "LP" to identify possible linear pairs, "V" to identify vertical angles, "C" to identify corresponding, "AE" for alternate exterior, "AI" for Alternate Interior, "SSE" for same side exterior, and "SSI" for same side interior.

<p><b>EXAMPLE:</b></p> 	<p>1.</p> 	<p>2.</p> 
<p>3.</p> 	<p>4.</p> 	<p>5.</p> 

Name: \_\_\_\_\_

For problems 6 - 10, use the figure shown below.

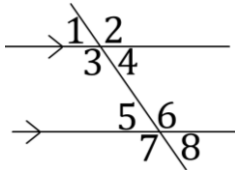


Remember that any angles you would mark "LP," "SSI" or "SSE" will add to equal 180°,

& any angles you would mark "C," "V," "AI" or "AE" will be congruent.

<p><b>EXAMPLE:</b> If <math>m\angle BCF = 147^\circ</math>, then <math>m\angle CFG = ?</math> (Angle pair is: <b>Alt. Int.</b>)</p> <p><i>Alternate Interior angles are congruent, so (by def. cong.)</i> <math>m\angle CFG = m\angle BCF</math> <math>m\angle CFG = 147^\circ</math></p>	<p>6. If <math>m\angle HFG = 52^\circ</math>, then <math>m\angle EFC = ?</math> (Angle pair is: _____)</p>	<p>7. If <math>m\angle DCF = 74^\circ</math>, then <math>m\angle CFG = ?</math> (Angle pair is: _____)</p>
<p>8. If <math>m\angle BCF = 123^\circ</math>, then <math>m\angle EFH = ?</math> (Angle pair is: _____)</p>	<p>9. If <math>m\angle DCF = 88^\circ</math>, then <math>m\angle BCF = ?</math> (Angle pair is: _____)</p>	<p>10. If <math>m\angle EFH = 99^\circ</math>, then <math>m\angle ACD = ?</math> (Angle pair is: _____)</p>

For problems 11 - 15, use the figure shown below.

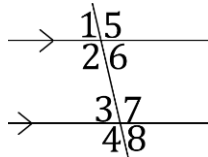


Remember that any angles you would mark "LP," "SSI" or "SSE" will add to equal 180°,

& any angles you would mark "C," "V," "AI" or "AE" will be congruent.

<p><b>EXAMPLE:</b> If <math>m\angle 2 = 141^\circ</math>, then <math>m\angle 8 = ?</math> (Angle pair is: <b>Same Side Ext.</b>)</p> <p><i>Same Side Exterior angles will add to equal 180, so</i> <math>m\angle 2 + m\angle 8 = 180</math> <math>141 + m\angle 8 = 180</math> <math>m\angle 8 = 39^\circ</math></p>	<p>11. If <math>m\angle 1 = 47^\circ</math>, then <math>m\angle 4 = ?</math> (Angle pair is: _____)</p>	<p>12. If <math>m\angle 3 = 126^\circ</math>, then <math>m\angle 6 = ?</math> (Angle pair is: _____)</p>
<p>13. If <math>m\angle 1 = 58^\circ</math>, then <math>m\angle 3 = ?</math> (Angle pair is: _____)</p>	<p>14. If <math>m\angle 4 = 34^\circ</math>, then <math>m\angle 8 = ?</math> (Angle pair is: _____)</p>	<p>15. If <math>m\angle 6 = 138^\circ</math>, then <math>m\angle 4 = ?</math> (Angle pair is: _____)</p>

For problems 16 - 20, use the figure shown below.



<p><b>EXAMPLE:</b>  <math>m\angle 5 = (3x + 18)^\circ</math> &amp;  <math>m\angle 6 = (2x + 2)^\circ</math>.  <math>m\angle 5 = ?</math></p> <p><i>Linear Pair angles will add to equal 180, so</i>  <math>m\angle 5 + m\angle 6 = 180</math>  <math>(3x + 18) + (2x + 2) = 180</math>  <math>5x + 20 = 180</math>  <math>5x = 160</math>  <math>x = 32</math>  <math>m\angle 5 = 3(32) + 18</math>  <math>m\angle 5 = 114^\circ</math></p>	<p><b>EXAMPLE:</b>  <math>m\angle 1 = (6x + 12)^\circ</math> &amp;  <math>m\angle 3 = (8x - 8)^\circ</math>.  <math>m\angle 3 = ?</math></p> <p><i>Corresponding angles are congruent, so (by def. cong.)</i>  <math>m\angle 1 = m\angle 3</math>  <math>6x + 12 = 8x - 8</math>  <math>12 = 2x - 8</math>  <math>20 = 2x</math>  <math>10 = x</math>  <math>x = 10</math>  <math>m\angle 3 = 8(10) - 8</math>  <math>m\angle 3 = 72^\circ</math></p>	<p>16. <math>m\angle 4 = (5x - 5)^\circ</math> &amp;  <math>m\angle 5 = (7x - 55)^\circ</math>. <math>m\angle 4 = ?</math></p>	<p>17. <math>m\angle 2 = (7x - 20)^\circ</math> &amp;  <math>m\angle 3 = (2x + 56)^\circ</math>. <math>m\angle 3 = ?</math></p>
<p>18. <math>m\angle 6 = (8x + 4)^\circ</math> &amp;  <math>m\angle 8 = (11x - 17)^\circ</math>. <math>m\angle 6 = ?</math></p>	<p>19. <math>m\angle 1 = (2x + 12)^\circ</math> &amp;  <math>m\angle 5 = (4x - 48)^\circ</math>. <math>m\angle 5 = ?</math></p>	<p>20. <math>m\angle 3 = (12x - 15)^\circ</math> &amp;  <math>m\angle 8 = (8x + 17)^\circ</math>. <math>m\angle 3 = ?</math></p>	

Parallel Lines Cut by a Transversal Practice Answers

<p>1. </p>	<p>2. </p>	<p>3. </p>	<p>4. </p>	<p>5. </p>
<p>6. (Vertical)  <math>m\angle EFC = 52^\circ</math></p>	<p>7. (S.S. Int.)  <math>m\angle CFG = 106^\circ</math></p>	<p>8. (Corresponding)  <math>m\angle EFH = 123^\circ</math></p>	<p>9. (Linear Pair)  <math>m\angle BCF = 92^\circ</math></p>	<p>10. (Alt. Ext.)  <math>m\angle ACD = 99^\circ</math></p>
<p>11. (Vertical)  <math>m\angle 4 = 47^\circ</math></p>	<p>12. (Alt. Int.)  <math>m\angle 6 = 126^\circ</math></p>	<p>13. (Linear Pair)  <math>m\angle 3 = 122^\circ</math></p>	<p>14. (Corr.)  <math>m\angle 8 = 34^\circ</math></p>	<p>15. (S.S. Int.)  <math>m\angle 4 = 42^\circ</math></p>
<p>16. <math>m\angle 4 = 120^\circ</math></p>	<p>17. <math>m\angle 3 = 88^\circ</math></p>	<p>18. <math>m\angle 6 = 60^\circ</math></p>	<p>19. <math>m\angle 5 = 96^\circ</math></p>	<p>20. <math>m\angle 3 = 81^\circ</math></p>