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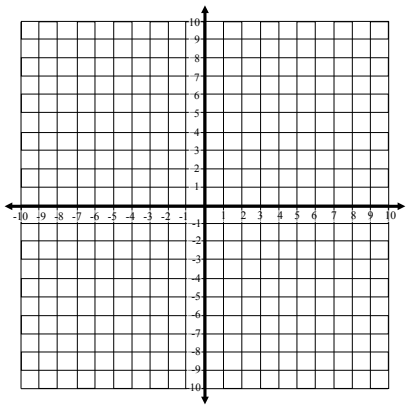
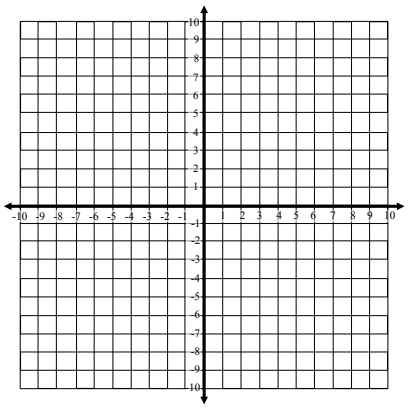
Unit 4 Study Guide with Class Examples

Problem	Class Example	Memorize
1. Determine the distance between points $(-14, -6)$ & $(8, 7)$.	Ex1. Determine the distance between points $(-19, 2)$ & $(-5, -8)$.	
2. Henry draws line segment PQ with coordinates of $P(1, 4)$ and $Q(7, 3)$. He translates the line segment 6 units down. He names this line segment $P'Q'$. a. Identify the new coordinates of P' & Q'. b. Describe how a vertical translation changes the coordinates of the endpoints. 	Ex2. Henry draws line segment PQ with coordinates of $P(3, 2)$ and $Q(-4, 6)$. He translates the line segment 4 units right. He names this line segment $P'Q'$. a. Identify the new coordinates of P' & Q'. b. Describe how a vhorizontal translation changes the coordinates of the endpoints. 	
3. Calculate the midpoint of a line segment with the endpoints $(17, 8)$ and $(5, 26)$.	Ex3. Calculate the midpoint of a line segment with the endpoints $(35, 33)$ and $(7, 5)$.	

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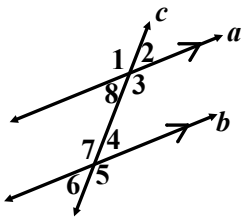
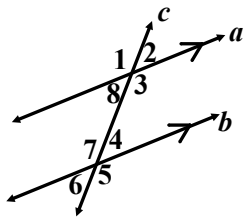
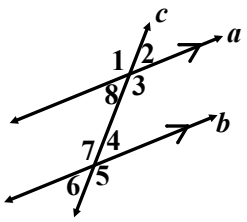
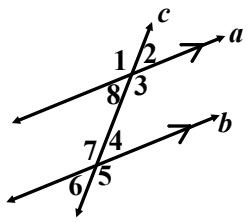
4. The measure of angle M is 53°. a. What is the measure of an angle that is complementary to $\angle M$? b. What is the measure of an angle that is supplementary to $\angle M$?	Ex4. The measure of angle M is 31°. a. What is the measure of an angle that is complementary to $\angle M$? b. What is the measure of an angle that is supplementary to $\angle M$?	
5. Jared bisects angle *LMN*. He labels a point on the bisector as *P*. Angle *LMN* is 148°. What is the measure of angles *LMP* and *PMN?*	Ex5. Jared bisects angle *STV*. He labels a point on the bisector as *E*. Angle *STV* is 34°. What is the measure of angles *STE* and *ETV?*	
6. Given the figure, $m\angle 4 = 51°$, determine the $m\angle 8$ and provide the theorem or postulate you used. 	Ex6. Given the figure, $m\angle 7 = 129°$, determine the $m\angle 8$ and provide the theorem or postulate you used. 	
7. Given the figure, $m\angle 8 = 37°$, determine the $m\angle 6$ and provide the theorem or postulate you used. 	Ex7. Given the figure, $m\angle 2 = 40°$, determine the $m\angle 6$ and provide the theorem or postulate you used. 	

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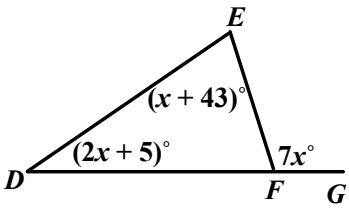
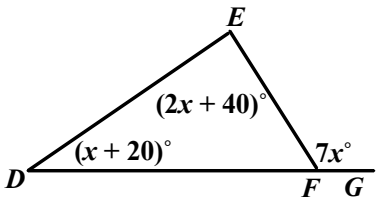
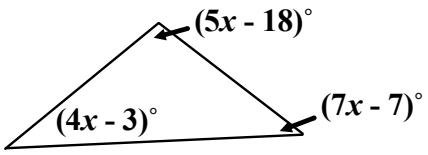
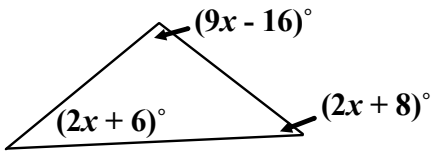
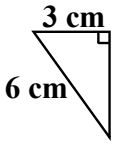
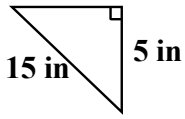
8. Solve for x and find the measure of the exterior angle. 	Ex8. Solve for x and find the measure of the exterior angle. 	
9. Find the value of x and the measurement of all of the angles. 	Ex9. Find the value of x and the measurement of all of the angles. 	
10. Find the measurement of the missing leg length. 	Ex10. Find the measurement of the missing leg length. 	

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Unit 4 Study Guide with Class Examples
Answers

1. $\sqrt{653}$			
2a. $P'(1,-2)$ and $Q'(7,-3)$			
2b. This vertical translation subtracts 6 (because it's 6 DOWN) from the *y*-value.			
3. $(11, 17)$			
4a. 37°			
4b. 127°			
5. 74°			
6. $m\angle 8 = 51^\circ$	Theorem or Postulate: **Alternate Interior Angles Theorem**		
7. $m\angle 6 = 37^\circ$	Theorem or Postulate: **Corresponding Angles Postulate**		
8. $x = 12$	Exterior Angle: 84°		
9. $x = 13$	$m\angle 1 = 47^\circ$	$m\angle 2 = 49^\circ$	$m\angle 3 = 84^\circ$
10. $3\sqrt{3}$			