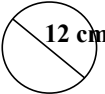


Geometry Unit 1-6 Review

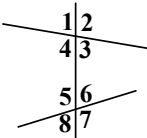
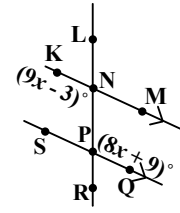
**Unit 1**

1.	The point $(-8, 7)$ lies on a circle whose equation is $(x + 8)^2 + (y - 2)^2 = r^2$ . What is the radius of the circle?	3. $M$ is the midpoint of $\overline{LN}$ . $M$ has coordinates $(7, 5)$ and $L$ has coordinates $(-2, 6)$ . What are the coordinates of $N$ ?
2.	Determine the area. 	


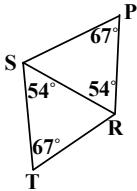
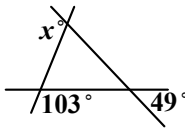
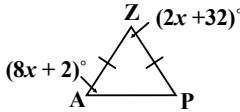
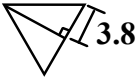
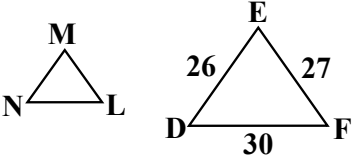
**Unit 2**

4.	Write the converse of the conditional statement. <i>"If an animal is a cat, then it has fur."</i> Is the converse True or False (if false, provide a counterexample)?	6. Complete the proof. <b>Given:</b> $\overline{QR}$ bisects $\angle PQS$ . $m\angle PQR = (6x + 12)^\circ$ , $m\angle RQS = (8x - 4)^\circ$ <b>Prove:</b> $m\angle PQS = 120^\circ$ <table border="1" data-bbox="889 953 1479 1472"> <tr><td><math>m\angle PQR = (6x + 12)^\circ</math></td><td>[?]</td></tr> <tr><td><math>m\angle RQS = (8x - 4)^\circ</math></td><td>[?]</td></tr> <tr><td><math>\angle PQR \cong \angle RQS</math></td><td>[?]</td></tr> <tr><td><math>m\angle PQR = m\angle RQS</math></td><td>[?]</td></tr> <tr><td><math>6x + 12 = 8x - 4</math></td><td>[?]</td></tr> <tr><td><math>12 = 2x - 4</math></td><td>[?]</td></tr> <tr><td><math>16 = 2x</math></td><td>[?]</td></tr> <tr><td><math>8 = x</math></td><td>[?]</td></tr> <tr><td><math>x = 8</math></td><td>[?]</td></tr> <tr><td><math>m\angle PQR + m\angle RQS = m\angle PQS</math></td><td>[?]</td></tr> <tr><td><math>6x + 12 + 8x - 4 = m\angle PQS</math></td><td>[?]</td></tr> <tr><td><math>14x + 8 = m\angle PQS</math></td><td>[?]</td></tr> <tr><td><math>14(8) + 8 = m\angle PQS</math></td><td>[?]</td></tr> <tr><td><math>112 + 8 = m\angle PQS</math></td><td>[?]</td></tr> <tr><td><math>120 = m\angle PQS</math></td><td>[?]</td></tr> <tr><td><math>m\angle PQS = 120^\circ</math></td><td>[?]</td></tr> </table>	$m\angle PQR = (6x + 12)^\circ$	[?]	$m\angle RQS = (8x - 4)^\circ$	[?]	$\angle PQR \cong \angle RQS$	[?]	$m\angle PQR = m\angle RQS$	[?]	$6x + 12 = 8x - 4$	[?]	$12 = 2x - 4$	[?]	$16 = 2x$	[?]	$8 = x$	[?]	$x = 8$	[?]	$m\angle PQR + m\angle RQS = m\angle PQS$	[?]	$6x + 12 + 8x - 4 = m\angle PQS$	[?]	$14x + 8 = m\angle PQS$	[?]	$14(8) + 8 = m\angle PQS$	[?]	$112 + 8 = m\angle PQS$	[?]	$120 = m\angle PQS$	[?]	$m\angle PQS = 120^\circ$	[?]
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5.	Provide a counter-example. <i>"If a figure is a prism, then its base is a rectangle."</i>																																	

**Unit 3**

7.	Identify the angle that is alternate exterior to $\angle 8$ . 	8. Find $m\angle KNL$ . 
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**Units 4 & 7**

9.	Classify the triangle below by its sides and angles. 	10.	What postulate or theorem will prove that $\triangle STR \cong \triangle RPS$ ? 
11.	Determine the value of $x$ . 	13.	Determine $m\angle P$ . 
12.	The triangle below is equiangular. Determine the length of each of its sides. 	14.	$\triangle DEF \sim \triangle LMN$ . If the similarity ratio is $\frac{3}{2}$ , what is $MN$ ? 

15.	Complete the proof. Given: $\triangle ABC \cong \triangle LMN$ , $AB = 15$ Prove: $LM = 15$  <b>Proof:</b> <table border="1" data-bbox="217 1402 1479 1566"> <tr> <td>1. <math>\triangle ABC \cong \triangle LMN</math>, <math>AB = 15</math></td> <td>1. Given</td> </tr> <tr> <td>2. <math>\overline{AB} \cong \overline{LM}</math></td> <td>2. [?]</td> </tr> <tr> <td>3. <math>AB = LM</math></td> <td>3. Definition of Congruence</td> </tr> <tr> <td>4. <math>15 = LM</math></td> <td>4. Substitution Property of Equality</td> </tr> <tr> <td>5. <math>LM = 15</math></td> <td>5. Symmetric Property of Equality</td> </tr> </table> <p>A. Definition of Congruence    B. Substitution    C. CPCTC    D. Reflexive Property of Equality</p>	1. $\triangle ABC \cong \triangle LMN$ , $AB = 15$	1. Given	2. $\overline{AB} \cong \overline{LM}$	2. [?]	3. $AB = LM$	3. Definition of Congruence	4. $15 = LM$	4. Substitution Property of Equality	5. $LM = 15$	5. Symmetric Property of Equality
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**Unit 6**

16.	a. How can you determine that a figure is a parallelogram (what do you need to know)? b. How is a parallelogram different from a trapezoid?	17.	a. If a figure is a <i>rhombus</i> , how are the diagonals related? b. What makes a <i>kite</i> different from a <i>rhombus</i> ? c. How are their diagonals different?
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