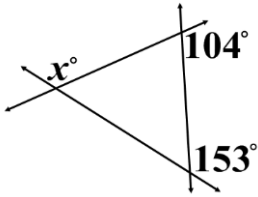
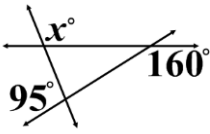
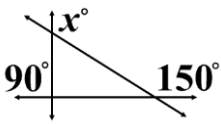
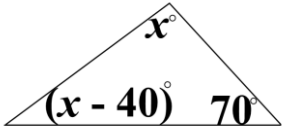
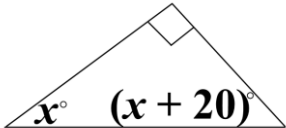
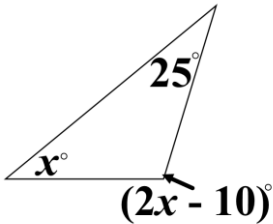
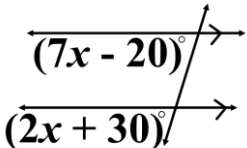
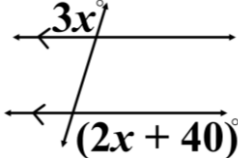
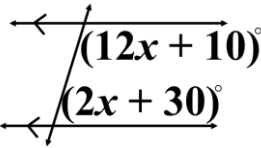
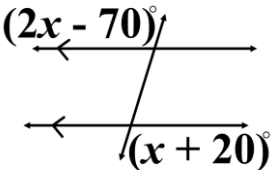
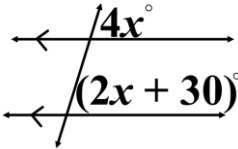
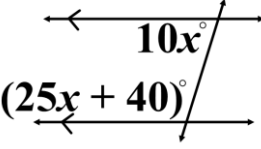
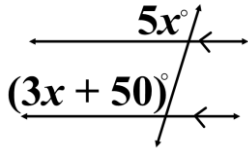


Unit 4 Study Guide

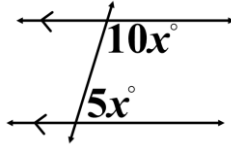
Determine the value of x , and use it to evaluate each given angle measure.

<p>1a.</p> 	<p>1b.</p> 	<p>1c.</p> 
<p>2a.</p> 	<p>2b.</p> 	<p>2c.</p> 
<p>3a.</p> 	<p>3b.</p> 	<p>3c.</p> 
<p>4a.</p> 	<p>4b.</p> 	<p>4c.</p> 

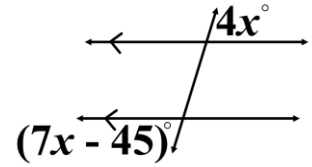
5a.



5b.

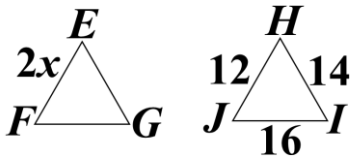


5c.

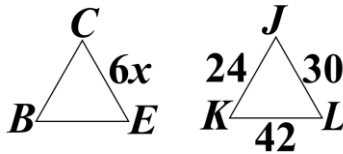


Evaluate.

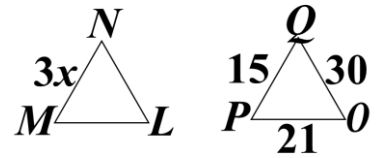
6a. Find the value of x , given that $\triangle EFG \cong \triangle HIJ$ (not drawn to scale).



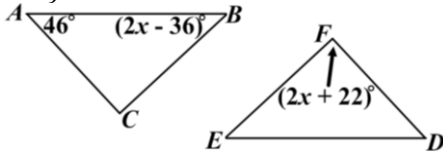
6b. Find the value of x , given that $\triangle BCE \cong \triangle JKL$ (not drawn to scale).



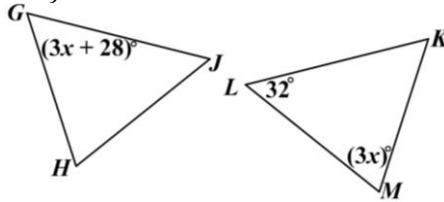
6c. Find the value of x , given that $\triangle LMN \cong \triangle OPQ$ (not drawn to scale).



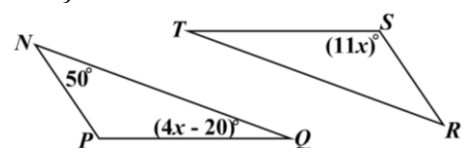
7a. For the figure shown, $\triangle ABC \cong \triangle DEF$. Determine the value of x (not drawn to scale).



7b. For the figure shown, $\triangle GHJ \cong \triangle KLM$. Determine the value of x (not drawn to scale).



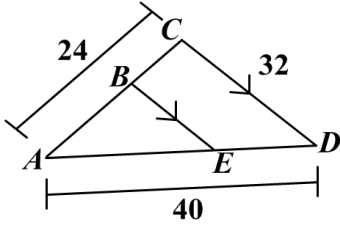
7c. For the figure shown, $\triangle NPQ \cong \triangle RST$. Determine the value of x (not drawn to scale).



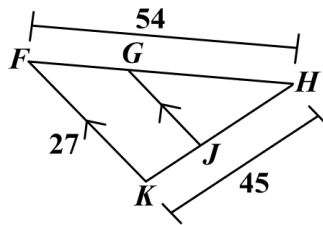
Name: _____

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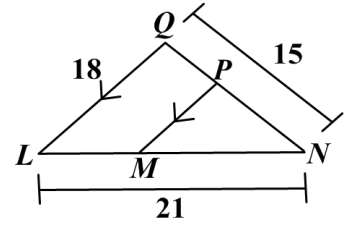
8a. $\triangle ACD \sim \triangle ABE$, with a scale factor of $\frac{8}{7}$. Determine the length of AE .



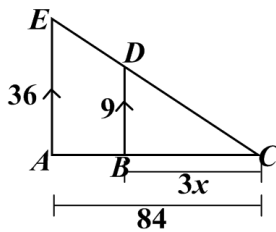
8b. $\triangle HGJ \sim \triangle HFK$, with a scale factor of $\frac{5}{9}$. Determine the length of JG .



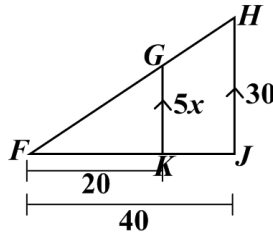
8c. $\triangle LQN \sim \triangle MPN$, with a scale factor of $\frac{3}{2}$. Determine the length of PN .



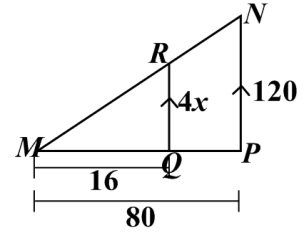
9a. Determine the length of BC , given that $\triangle ACE \sim \triangle BCD$.



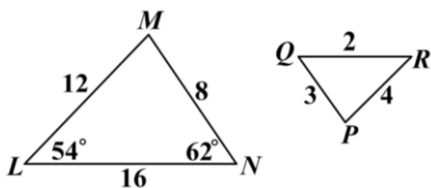
9b. Determine the length of GK , given that $\triangle FHJ \sim \triangle FGK$.



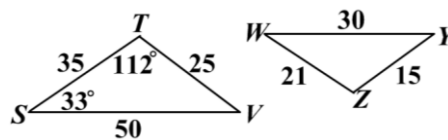
9c. Determine the length of RQ , given that $\triangle MPN \sim \triangle MQR$.



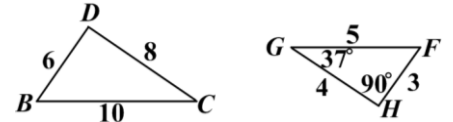
10a. For the figure shown, $\triangle LMN \sim \triangle PQR$. Determine the measure of $\angle Q$.



10b. For the figure shown, $\triangle STV \sim \triangle WZY$. Determine the measure of $\angle Y$.



10c. For the figure shown, $\triangle BCD \sim \triangle FGH$. Determine the measure of $\angle B$.



Unit 4 Study Guide Answers

<p>1a. The total angle measure of a circle is 360°. The angle measure of a straight line is 180° because a line divides a circle in half & $\frac{360}{2} = 180$.</p>	<p>1b.</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td>$m\angle 1 = x, m\angle 2 = y,$ $m\angle 4 = z$</td> <td>Given</td> </tr> <tr> <td>$m\angle 1 + m\angle 2 + m\angle 3 = 180$</td> <td>$\Delta$ Sum Thm</td> </tr> <tr> <td>$x + y + m\angle 3 = 180$</td> <td>Subst.</td> </tr> <tr> <td>$\angle 3$ & $\angle 4$ are a linear pair</td> <td>Given</td> </tr> <tr> <td>$m\angle 3 + m\angle 4 = 180$</td> <td>Lin. Pr. Thm.</td> </tr> <tr> <td>$m\angle 3 + z = 180$</td> <td>Subst.</td> </tr> </tbody> </table> <p>Since both equations equal 180, I will replace 180 with $m\angle 3 + z$.</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td>$x + y + m\angle 3 = m\angle 3 + z$</td> <td>Subst.</td> </tr> </tbody> </table> <p>Subtracting $m\angle 3$ cancels it out.</p> <table border="1" style="width: 100%;"> <tbody> <tr> <td>$x + y = z$</td> <td>Subtr. Prop. =</td> </tr> </tbody> </table>	$m\angle 1 = x, m\angle 2 = y,$ $m\angle 4 = z$	Given	$m\angle 1 + m\angle 2 + m\angle 3 = 180$	Δ Sum Thm	$x + y + m\angle 3 = 180$	Subst.	$\angle 3$ & $\angle 4$ are a linear pair	Given	$m\angle 3 + m\angle 4 = 180$	Lin. Pr. Thm.	$m\angle 3 + z = 180$	Subst.	$x + y + m\angle 3 = m\angle 3 + z$	Subst.	$x + y = z$	Subtr. Prop. =	<p>1c. A line, which is half of a circle is 180°. Therefore, the circle must be twice as large, making it 360°, because 180 times 2 is 360.</p>
$m\angle 1 = x, m\angle 2 = y,$ $m\angle 4 = z$	Given																	
$m\angle 1 + m\angle 2 + m\angle 3 = 180$	Δ Sum Thm																	
$x + y + m\angle 3 = 180$	Subst.																	
$\angle 3$ & $\angle 4$ are a linear pair	Given																	
$m\angle 3 + m\angle 4 = 180$	Lin. Pr. Thm.																	
$m\angle 3 + z = 180$	Subst.																	
$x + y + m\angle 3 = m\angle 3 + z$	Subst.																	
$x + y = z$	Subtr. Prop. =																	
2a. $x = 75; x^\circ = 75^\circ; (x - 40)^\circ = 35^\circ$	2b. $x = 35; x^\circ = 35^\circ; (x + 20)^\circ = 55^\circ$	2c. $x = 55; x^\circ = 55^\circ; (2x - 10)^\circ = 100^\circ$																
3a. $x = 10;$ $(7x - 20)^\circ = 50^\circ; (2x + 30)^\circ = 50^\circ$	3b. $x = 40;$ $3x^\circ = 120^\circ; (2x + 40)^\circ = 120^\circ$	3c. $x = 10;$ $(12x + 10)^\circ = 130^\circ; (2x + 30)^\circ = 50^\circ$																
4a. $x = 90;$ $(2x - 70)^\circ = 110^\circ; (x + 20)^\circ = 110^\circ$	4b. $x = 15;$ $4x^\circ = 60^\circ; (2x + 30)^\circ = 60^\circ$	4c. $x = 4;$ $10x^\circ = 40^\circ; (25x + 40)^\circ = 140^\circ$																
5a. $x = 25;$ $5x^\circ = 125^\circ; (3x + 50)^\circ = 125^\circ$	5b. $x = 12;$ $10x^\circ = 120^\circ; 5x^\circ = 60^\circ$	5c. $x = 15$ $4x^\circ = 60^\circ; (7x - 45)^\circ = 60^\circ$																
6a. $x = 7$	6b. $x = 7$	6c. $x = 5$																
7a. $x = 37$	7b. $x = 20$	7c. $x = 10$																
8a. $AE = 35$	8b. $JG = 15$	8c. $PN = 10$																
9a. $BC = 21$	9b. $GK = 15$	9c. $RQ = 6$																
10a. $m\angle Q = 64^\circ$	10b. $m\angle Y = 35^\circ$	10c. $m\angle B = 53^\circ$																