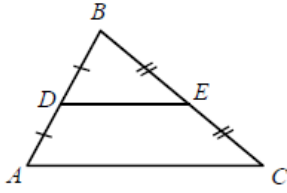
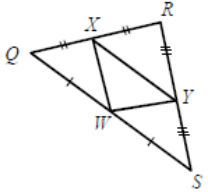
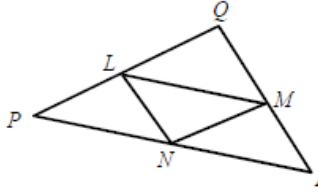
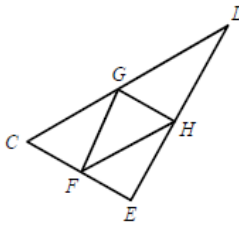
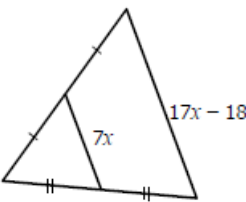
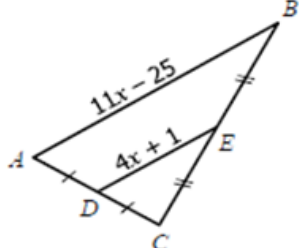
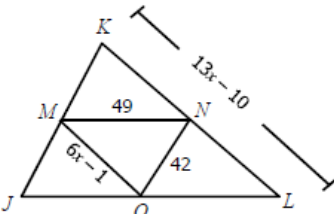
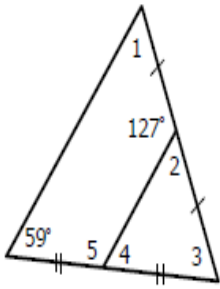


Main Ideas/Questions	Triangle Midsegment theorem	
<p>TRIANGLE MIDSEGMENT</p>	<ul style="list-style-type: none"> A midsegment of a triangle is a segment connecting the _____ of two sides of the triangles. Example: _____ 	
<p>Triangle Midsegment THEOREM</p>	<p>If a segment joins the midpoints of two sides of a triangle, then the segment is _____ to the third side and _____ as long.</p> <p>Using the diagram above, if \overline{DE} is a midsegment of $\triangle ABC$, then:</p> <p>1) _____ 2) _____</p>	
<p>1. Identify all pairs of parallel segments.</p>  <p>a) _____</p> <p>b) _____</p> <p>c) _____</p>	<p>3. If $L, M,$ and N are the midpoints of the sides of $\triangle PQR$, $PR = 46$, $PQ = 40$, and $LN = 17$, find each measure.</p>  <p>a) $LM =$ _____</p> <p>b) $MN =$ _____</p> <p>c) $QR =$ _____</p> <p>d) $MR =$ _____</p>	
<p>4. If $F, G,$ and H are the midpoints of the sides of $\triangle CDE$, $FG = 9$, $GH = 7$, and $CD = 24$, find each measure.</p>  <p>a) $CE =$ _____</p> <p>b) $DE =$ _____</p> <p>c) $FH =$ _____</p> <p>d) Perimeter of $\triangle CDE$: _____</p>	<p>5. Find the value of x.</p> 	
<p>7. Find DE.</p> 		
<p>9. If \overline{MN}, \overline{NO}, and \overline{MO} are midsegments, find the perimeter of $\triangle JKL$.</p> 		

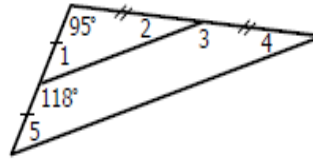
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10. Find the measure of each missing angle.



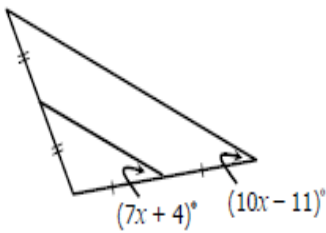
- $m\angle 1 = \underline{\hspace{2cm}}$
- $m\angle 2 = \underline{\hspace{2cm}}$
- $m\angle 3 = \underline{\hspace{2cm}}$
- $m\angle 4 = \underline{\hspace{2cm}}$
- $m\angle 5 = \underline{\hspace{2cm}}$

11. Find the measure of each missing angle.

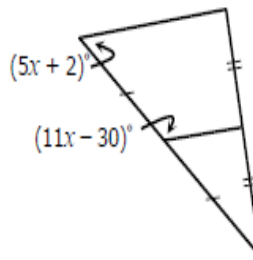


- $m\angle 1 = \underline{\hspace{2cm}}$
- $m\angle 2 = \underline{\hspace{2cm}}$
- $m\angle 3 = \underline{\hspace{2cm}}$
- $m\angle 4 = \underline{\hspace{2cm}}$
- $m\angle 5 = \underline{\hspace{2cm}}$

12. Find the value of x .

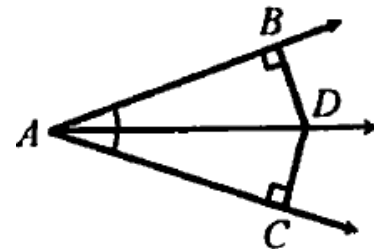
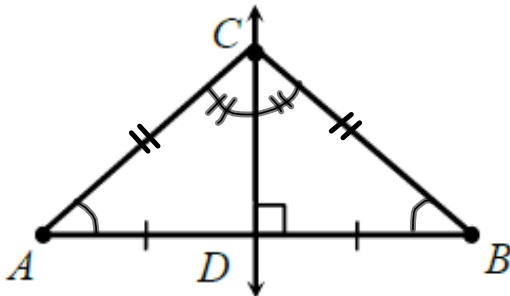


13. Find the value of x .



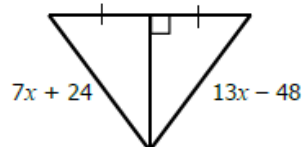
perpendicular Bisectors

Angle Bisectors

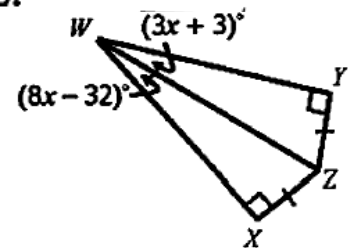


Examples:

1. Find the value of x .



2. Find $m\angle XWZ$.



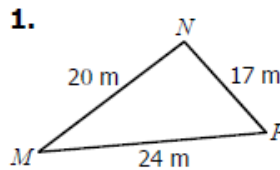
Main Ideas/Questions		
Triangle Inequality THEOREM	Determine if the following side lengths could form a triangle. Prove your answer with an inequality.	
	1. 8, 17, 24	2. 3, 3, 7
Is it a Triangle?	3. 25, 35, 12	4. 52, 37, 42
	Given two sides of a triangle, you can set up an inequality using the sum and difference to show the range of possible lengths for the third side.	
Finding a Third Side Range	9. 14 and 22	10. 31 and 28
	11. 3 and 11	12. 19 and 45

Ordering Angles

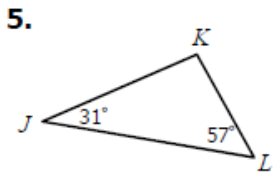
&

Ordering Sides

order the angles



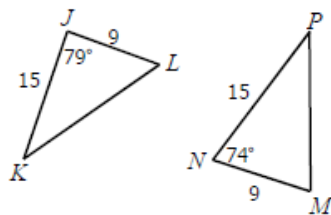
order the sides



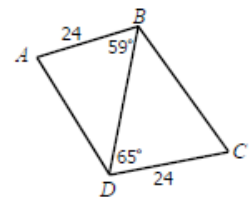
Inequalities in Two Triangles

Examples: Compare the sides and angles by filling in the blank with a $<$ or $>$ symbol.

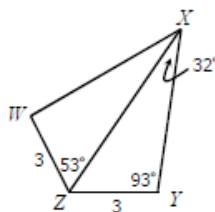
1. KL _____ PM



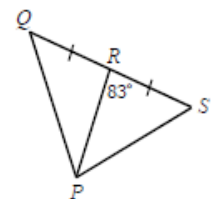
2. AD _____ BC



3. WX _____ XY

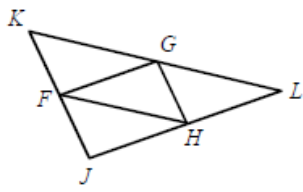
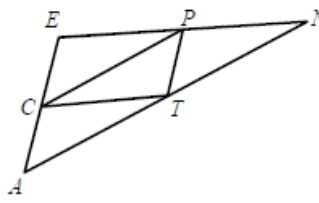
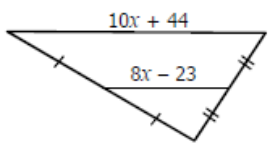
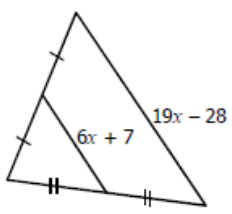
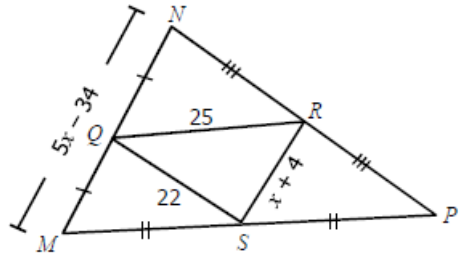
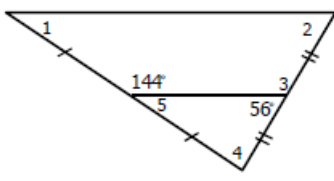
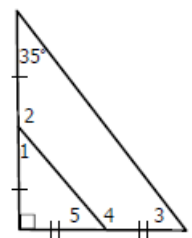
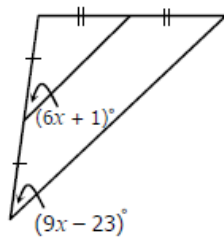
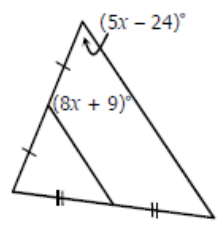


4. PQ _____ PS

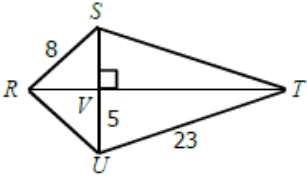
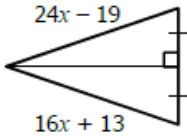
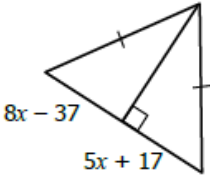
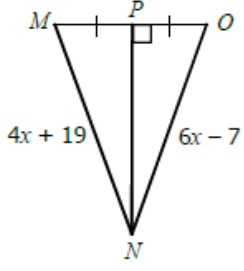
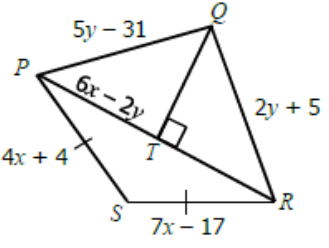
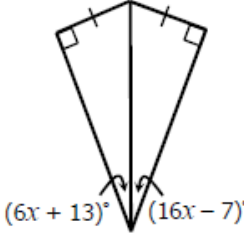
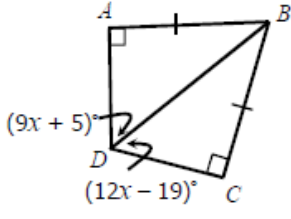


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Triangle Midsegments Practice

<p>3. If F, G, and H are the midpoints of the sides of $\triangle JKL$, $FG = 37$, $KL = 48$, and $GH = 30$, find each measure.</p>  <p>a) $FH =$ _____ b) $JL =$ _____ c) $KJ =$ _____ d) $FJ =$ _____</p>	<p>4. If C, P, and T are the midpoints of the sides of $\triangle AEN$, $PT = 13$, $EN = 43$, and $CP = 29$, find each measure.</p>  <p>a) $AE =$ _____ b) $AN =$ _____ c) $CT =$ _____ d) Perimeter of $\triangle AEN$: _____</p>
<p>5. Solve for x.</p> 	<p>6. Solve for x.</p> 
<p>9. Find the perimeter of $\triangle MNP$.</p> 	
<p>10. Find the measure of each missing angle.</p>  <p>$m\angle 1 =$ _____ $m\angle 2 =$ _____ $m\angle 3 =$ _____ $m\angle 4 =$ _____ $m\angle 5 =$ _____</p>	<p>11. Find the measure of each missing angle.</p>  <p>$m\angle 1 =$ _____ $m\angle 2 =$ _____ $m\angle 3 =$ _____ $m\angle 4 =$ _____ $m\angle 5 =$ _____</p>
<p>12. Find the value of x.</p> 	<p>13. Find the value of x.</p> 

Perpendicular & Angle Bisectors Practice

<p>1. If \overline{RT} bisect \overline{SU}, find each measure.</p>  <p style="margin-left: 200px;"> $ST = \underline{\hspace{2cm}}$ $RU = \underline{\hspace{2cm}}$ $SV = \underline{\hspace{2cm}}$ $SU = \underline{\hspace{2cm}}$ </p>	<p>2. Find x.</p> 
<p>3. Find x.</p> 	<p>4. Find MN.</p> 
<p>7. If \overline{QT} is the perpendicular bisector of \overline{PR}, find each measure.</p>  <p style="margin-left: 750px;"> $x = \underline{\hspace{2cm}}$ $y = \underline{\hspace{2cm}}$ $PQ = \underline{\hspace{2cm}}$ $QR = \underline{\hspace{2cm}}$ $PS = \underline{\hspace{2cm}}$ $SR = \underline{\hspace{2cm}}$ $PT = \underline{\hspace{2cm}}$ $PR = \underline{\hspace{2cm}}$ </p>	
<p>9. Find x.</p> 	<p>11. Find $m\angle BDC$.</p> 

relationships in triangles packet

Triangle Inequalities Practice

Directions: Determine if the side lengths could form a triangle. Use an inequality to prove your answer.

1. 16 m, 21 m, 39 m

2. 18 in, 6 in, 13 in

3. 34 km, 27 km, 58 km

4. 29 ft, 38 ft, 9 ft

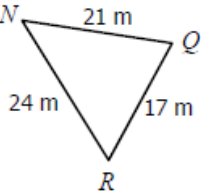
Directions: Given two sides of a triangle, find a range of possible lengths for the third side.

7. 4 cm, 17 cm

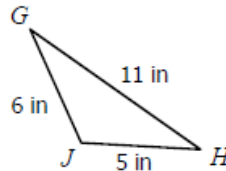
8. 24 ft, 52 ft

Directions: Order the angles from least to greatest for 13-14, then greatest to least for 17-18.

13.

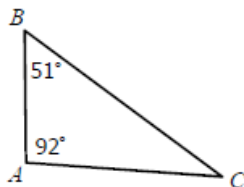


14.

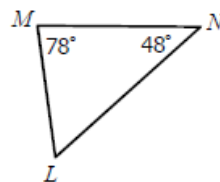


Directions: Order the sides from least to greatest for 17-18, then greatest to least for 19-20.

17.

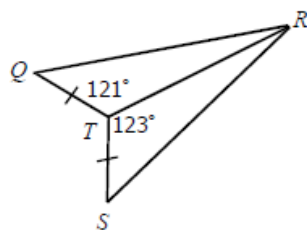


18.

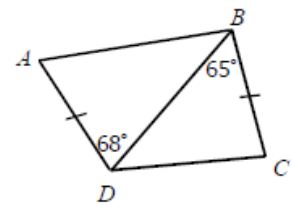


Directions: Compare the sides and angles by filling in the blank with a < or > symbol.

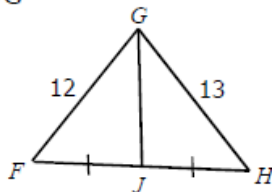
21. QR _____ RS



22. AB _____ CD



23. $m\angle FJG$ _____ $m\angle HJG$



24. $m\angle QSP$ _____ $m\angle QSR$

