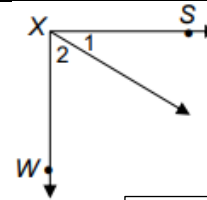


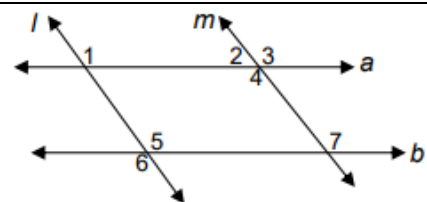
1) **Given:** $\angle 1$ & $\angle 2$ are Complementary
Prove: $\overline{SX} \perp \overline{WX}$



Statements	Reasons
1) $\angle 1$ & $\angle 2$ are Complementary	1)
2) $m\angle 1 + m\angle 2 = 90$	2)
3) $m\angle WXS = m\angle 1 + m\angle 2$	3)
4) $m\angle WXS = 90$	4)
5) $\angle WXS$ is right	5)
6) $\overline{SX} \perp \overline{WX}$	6)

- Choices:**
 Defn of Perpendicular Lines
 Defn of Complementary Angles
 Angle Addition Postulate
 Substitution
 Given
 Definition of Right Angles

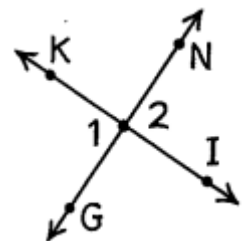
2) **Given:** $a \parallel b$ **Prove:** $l \parallel m$
 $\angle 5$ is supplementary to $\angle 2$



	Statements	Reasons
1	$\angle 5$ is supp to $\angle 2$	
2		
3	$a \parallel b$	
4	$\angle 1 \cong \angle 5$	
5		
6	$m\angle 1 + m\angle 2 = 180^\circ$	
7		

- Choices:**
 Definition of Congruence
 Given
 Converse of Same Side Int \angle 's Theorem
 $m\angle 5 + m\angle 2 = 180^\circ$
 Definition of Supplementary
 Substitution Property of Equality
 Given
 Corresponding Angles Postulate
 $m\angle 1 = m\angle 5$

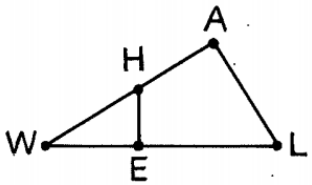
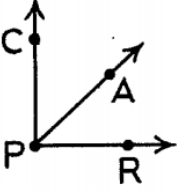
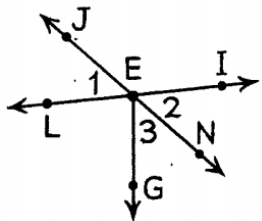
3) **Given:** $\angle 1$ and $\angle 2$ are vertical
 $\angle 1$ and $\angle 2$ are supplementary
Prove: $\overline{KI} \perp \overline{NG}$



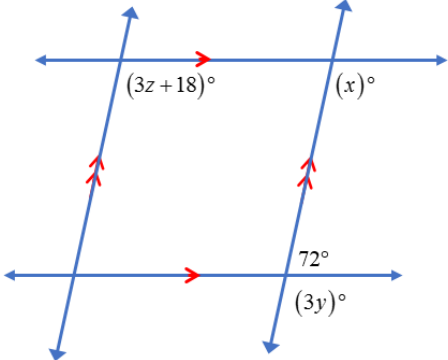
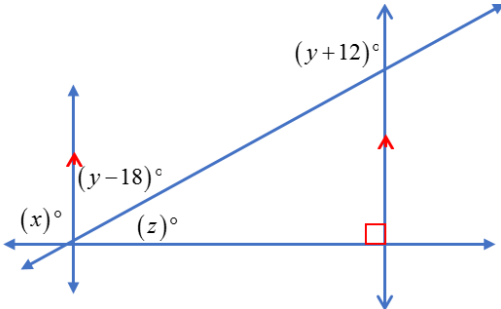
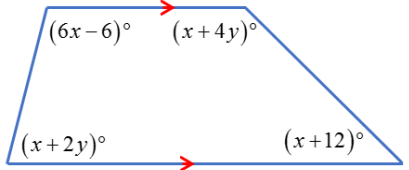
	Statements	Reasons
1	$\angle 1$ and $\angle 2$ are vertical	
2		Vertical Angle Theorem
3		Definition of Congruence
4	$\angle 1$ and $\angle 2$ are supplementary	
5		
6	$m\angle 1 + m\angle 1 = 180^\circ$	
7	$2 \cdot m\angle 1 = 180^\circ$	Simplify
8		Division Property of Equality
9	$\overline{KI} \perp \overline{NG}$	

Try the following proofs in your **notebook**. For each problem...

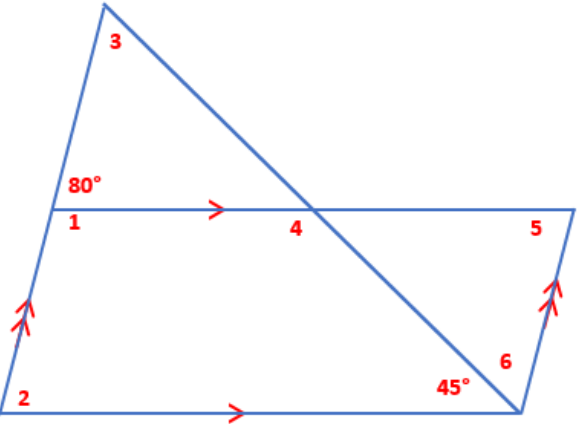
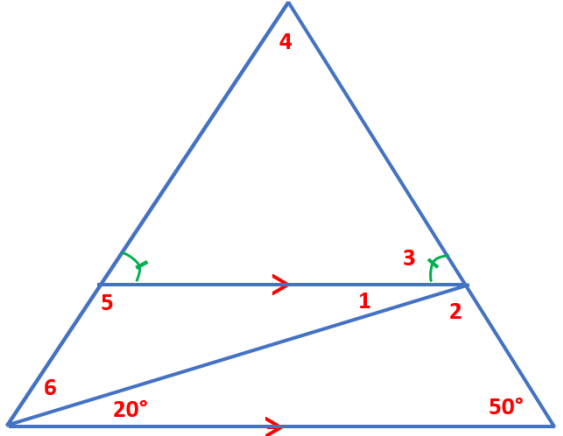
- Make a neat drawing of the diagram with all the same details.
- Mark the given information on the drawing (when possible)
- Make the two columns for your proof and write the words, "statements" and "reasons"
- Write the first given and try to write the next step and reason.
- Keep trying to complete the proof.
- Get helpful hints if necessary. Don't quit. Don't give up. Stop by a math classroom for help. ☺
- KEEP TRYING. You can do steps (a) – (d) on every proof even if you find the rest of it challenging.

<p>4) Given: $\overline{HE} \perp \overline{WL}$ $\angle HEW \cong \angle A$ Prove: $m\angle A = 90^\circ$</p> 	<p>5) Given: $\overline{PC} \perp \overline{PR}$ \overline{PA} bisects $\angle CPR$ Prove: $m\angle CPA = 45^\circ$</p> 	<p>6) Given: $\angle 1$ and $\angle 2$ are vertical \overline{EN} bisects $\angle IEG$ Prove: $\angle 1 \cong \angle 3$</p> 
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For 7-9: Write and solve equations to find the value of each variable. Complete in your notebook.

<p>7)</p> 	<p>8)</p> 	<p>9)</p>  <div style="border: 1px solid black; padding: 5px; margin-top: 10px; width: fit-content;"> <p>The y-value answer has a decimal.</p> </div>
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Solve the following angle puzzles. No protractors. Figures may not be drawn to scale.

<p>10)</p> 	<p>11)</p> 
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12) Simplify each expression:

a) $\left(\frac{1}{2}\right)^2$	b) $\left(\frac{-3}{4}\right)^2$	c) $6\left(\frac{2}{3}\right)^2$	d) $4 - \frac{5}{3}$	e) $\frac{3}{4} + \frac{4}{3}$	f) $\frac{1}{2} + \frac{1}{3} + \frac{1}{4}$
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