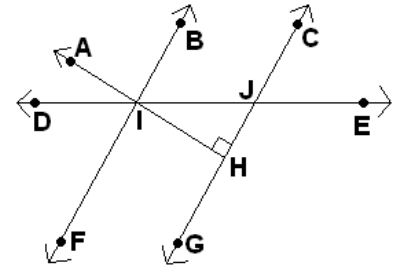


Simplify all answers and show your work!

- For corresponding angles or alternate interior/ exterior angles to be congruent, a transversal must cross what kind of lines? _____
- The sum of two supplementary angles is _____ degrees.
- Congruent triangles are the same _____ and have the same _____.
- The sum of two complementary angles is _____ degrees.
- What is the complement of a 81° angle? _____
- What is the supplement of a 81° angle? _____

Use the figure to the right to answer problems 7 - 13. Assume that $\overline{BF} \parallel \overline{CG}$.



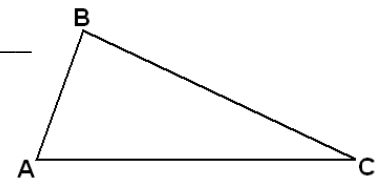
- List two right angles. _____
- List a pair of vertical angles. _____
- If $m\angle JIH = 37^\circ$, find the measures of the following.
 - $m\angle HJI =$ _____
 - $m\angle CJE =$ _____
 - $m\angle EJH =$ _____
 - $m\angle CJI =$ _____
 - $m\angle AID =$ _____
 - $m\angle DIF =$ _____
 - $m\angle BIJ =$ _____
 - $m\angle AIB =$ _____

Fill in the blanks with corresponding, vertical, alternate exterior, alternate interior, complementary, or supplementary.

- $\angle JIH$ and $\angle HJI$ are _____ angles.
- $\angle BIJ$ and $\angle DIF$ are _____ angles.
- $\angle DIF$ and $\angle CJE$ are _____ angles.
- $\angle DIB$ and $\angle IJC$ are _____ angles.

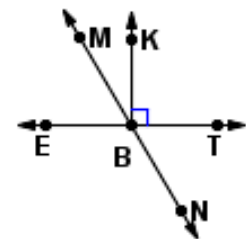
Given $\triangle ABC$ below where $m\angle ABC = 79^\circ$ and $m\angle ACB = 39^\circ$, answer problems 14 - 16.

- Find $m\angle BAC =$ _____.
- Which side is the longest? _____
- Which side is the shortest? _____



Given the figure to the below where $m\angle TBN = 4x^\circ$, $m\angle NBE = 8x^\circ$, find the following.

- $x =$ _____
- $m\angle TBN =$ _____
- $m\angle NBE =$ _____
- $m\angle MBE =$ _____
- $m\angle MBK =$ _____
- $m\angle KBN =$ _____
- $m\angle MBT =$ _____



Determine whether or not it is possible to make a triangle having the given side lengths. (Yes or No)

18. 3, 5, 6 _____

19. 7, 14, 30 _____

20. 8.2, 8.3, 0.2 _____

21. If $m\angle D = (7x - 121)^\circ$, $m\angle N = (3x + 15)^\circ$; and $\angle D$ and $\angle N$ are complementary, find the following.

a) $x =$ _____

b) $m\angle D =$ _____

c) $m\angle N =$ _____

22. A hot water heater is cylindrical in shape. It has a diameter of 20 inches and a height of $58\frac{1}{2}$ inches. If the hot water heater is to be wrapped in insulation on the side and on top (not bottom), how many square inches of insulation are needed?



23. Mack's Marble produces marble clocks in the shape of a pyramid. The base of the marble pyramid is a square with side lengths of 3.5 inches while its height is 4.5 inches. How many cubic inches of marble are needed to make the pyramid?



24. A wooden decorative box with dimensions of 11" by 6" by 4.5" is built to cover a tissue box. How many square inches of wood will it take to make the box before the hole in the top is cut? (Don't include the bottom.)

