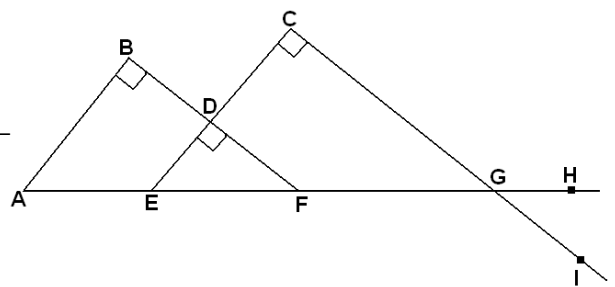


Simplify all answers and show your work!

1. The sum of two complementary angles is _____ degrees.
2. The sum of two supplementary angles is _____ degrees.
3. For corresponding angles or alternate interior/exterior angles to be congruent, a transversal must cross what kind of lines? _____
4. Congruent triangles are the same _____ and have the same _____.
5. What is the complement of a 53° angle?
6. What is the supplement of a 53° angle?

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

7. List two right angles. _____
8. List a pair of vertical angles. _____
9. If $m\angle BAE = 52^\circ$, find the measures of the following.
 - a) $m\angle BFA =$ _____
 - b) $m\angle DEF =$ _____
 - c) $m\angle DEA =$ _____
 - d) $m\angle DFG =$ _____
 - e) $m\angle CGF =$ _____
 - f) $m\angle HGI =$ _____
 - g) $m\angle CGH =$ _____
 - h) $m\angle FGI =$ _____

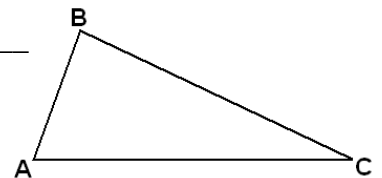


Fill in the blanks with corresponding, vertical, alternate exterior, alternate interior, complementary, or supplementary.

10. $\angle DFE$ and $\angle CGF$ are _____ angles.
11. $\angle DEA$ and $\angle DEF$ are _____ angles.
12. $\angle DFE$ and $\angle HGI$ are _____ angles.
13. $\angle CGH$ and $\angle IGF$ are _____ angles.

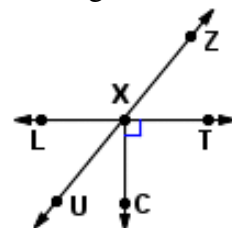
Given $\triangle ABC$ below where $m\angle ABC = 84^\circ$ and $m\angle BAC = 69^\circ$, answer problems 14 – 16.

14. Find $m\angle ACB =$ _____.
15. Which side is the longest? _____
16. Which side is the shortest? _____



17. Given the figure to the below where $m\angle LXZ = 3x^\circ$, $m\angle ZXT = x^\circ$, find the following.

- a) $x =$ _____
- b) $m\angle LXZ =$ _____
- c) $m\angle ZXT =$ _____
- d) $m\angle LXU =$ _____
- e) $m\angle UXC =$ _____



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

18. 4, 8, 9 _____

19. 2.1, 2.5, 0.6 _____

20. 12, 13, 38 _____

21. If $m\angle C = m\angle A$, where $m\angle A = (3x + 55)^\circ$ and $m\angle C = (2x + 71)^\circ$, find the following:

a) $x =$ _____

b) $m\angle A =$ _____

c) $m\angle C =$ _____

22) A cylindrical coffee can has a diameter of 8 in. and a height of 10 in. How many square inches of metal is used to make the can? (Include the top and bottom with the lateral side.)



23) Fifteen metal cubes with sides of 5 cm each are melted down together to be recast. What is the volume of the fifteen melted metal cubes?

24) Matt's Supreme Cones makes a sugar cone for ice cream with the dimensions as seen in the given picture. If ice cream is put in the cone such that it fills the entire cone and forms a hemisphere on top of the cone with a diameter of 1.75" (the same as the diameter of the cone), how many total cubic inches of ice cream is there?

