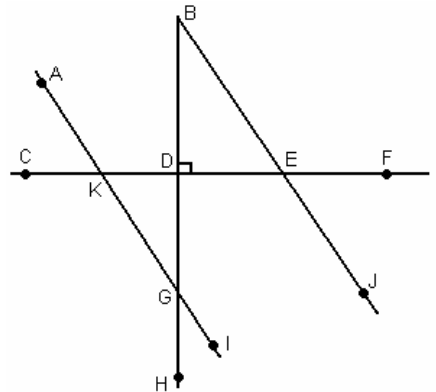


Simplify all answers and show your work!

- The Hypotenuse-Leg Congruence theorem only works on what kind of triangles? _____
- The sum of two supplementary angles is _____ degrees.
- The sum of two complementary angles is _____ degrees.
- Congruent triangles are the same _____ and have the same _____.
- For corresponding angles or alternate interior/exterior angles to be congruent, a transversal must cross what kind of lines? _____
- What is the complement of a 26° angle? _____
- What is the supplement of a 26° angle? _____

Use the figure to the right to answer problems 8 – 14. Assume that $\overline{AI} \parallel \overline{BJ}$ and $m\angle BDE = 90^\circ$.

- List three right angles. _____
- If $m\angle IGH = 29^\circ$, find the measures of:
 - $m\angle KGD =$ _____
 - $m\angle EBD =$ _____
 - $m\angle BED =$ _____
 - $m\angle DKG =$ _____
 - $m\angle AKC =$ _____
 - $m\angle AKD =$ _____
- List a pair of vertical angles. _____

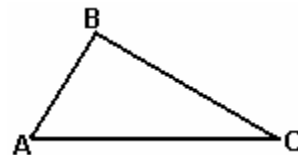


Fill in the blanks with corresponding, vertical, alternate exterior, alternate interior, complementary, or supplementary.

- $\angle AKC$ and $\angle BED$ are _____ angles.
- $\angle AKC$ and $\angle FEJ$ are _____ angles.
- $\angle CKG$ and $\angle DKG$ are _____ angles.
- $\angle EBD$ and $\angle BED$ are _____ angles.

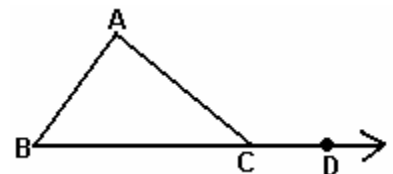
Given $\triangle ABC$ below where $m\angle ABC = 87^\circ$ and $m\angle BCA = 31^\circ$, answer problems 15 – 17.

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



Given the figure to the right where $m\angle ABC = 2x + 5^\circ$, $m\angle ACB = 3x - 9^\circ$, $m\angle ACD = 4x + 14$ and answer problems 18 – 22.

- Find the value of x . _____
- Find $m\angle ACD$. _____
- Find $m\angle ACB$. _____
- Find $m\angle ABC$. _____
- Find $m\angle BAC$. _____



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

23. 3, 5, 7 _____ 24. 11, 6, 4 _____ 25. 0.2, 0.1, 0.06 _____

26 Given a can having a radius of 4 cm and a height of 25 cm

- a) Find the volume of the can. b) Find the surface area of the can, including the top and bottom.

27. Our sun has a radius of approximately 695,500 kilometers and the Earth has a radius of approximately 6378.1 kilometers. Both are spherical in shape.

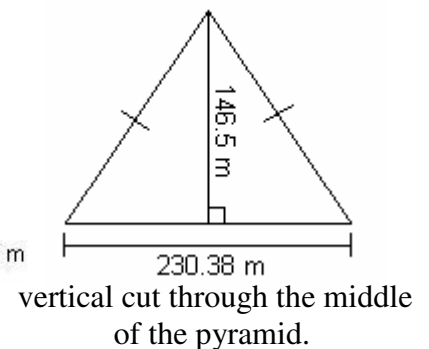
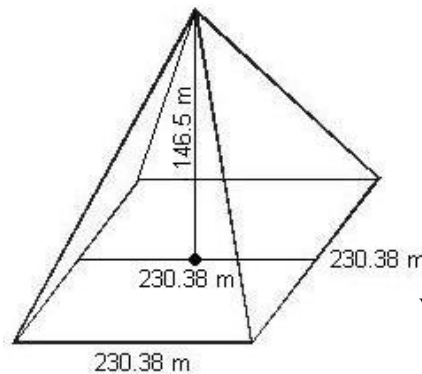
- a. Find the approximate volume of the sun. b. Find the approximate volume of the Earth.

c. How many times larger is the volume of the sun with respect to the volume of the Earth?

28. The Great Pyramid is a right pyramid having a square base of length 230.38 meters and a perpendicular height (not the slant height) of 146.5 meters. Each of the triangular faces is an isosceles triangle.

a. Find the slant height of the pyramid.

b. Find the area of each of the triangular faces.



c. Find the surface area of the pyramid. Include the bottom.

For each pair of triangles, determine which theorem – if any – proves congruence: SSS, SAS, ASA, AAS, HL, or none.

