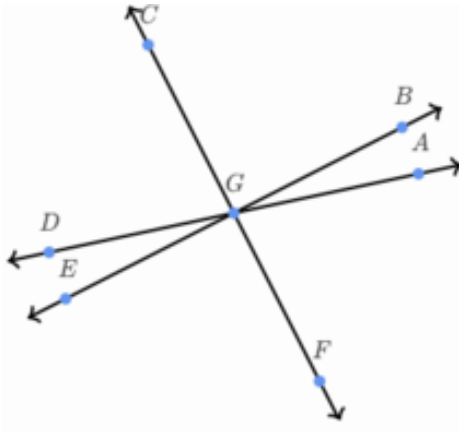


# 7<sup>th</sup> Grade Math Geometry Study Guide

Answer each question on a separate sheet of paper. Show all of your work, and explain your answer if instructed to.

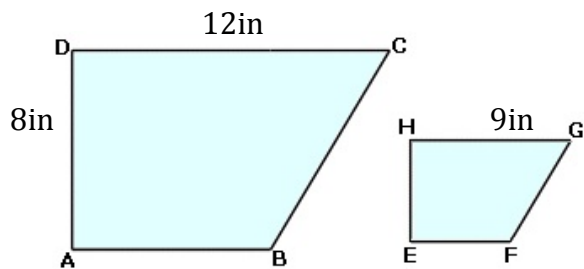
Use the image below to answer questions 1-3:



- 1.) Name two pairs of adjacent angles
- 2.) Name three pairs of congruent angles
- 3.) Name two pairs of supplementary angles

*Example:  $\angle CGB$  is adjacent to  $\angle BGA$*

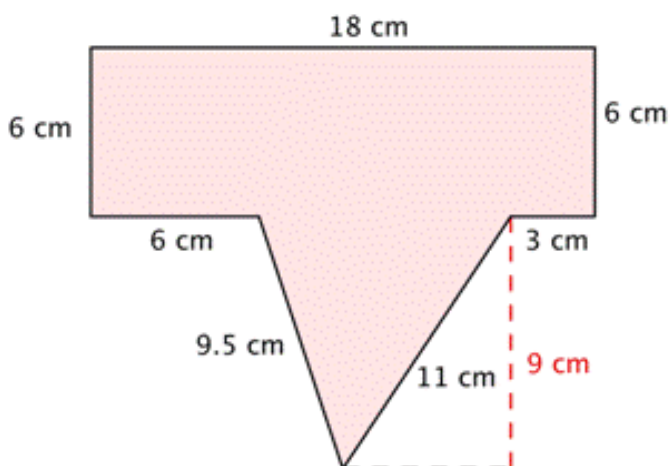
Use the image below to answer questions 4-6:



**Given: quadrilateral ABCD ~ EFGH**

- 4.) Name the side length that corresponds to side CG.
- 5.) If  $m\angle C = 65^\circ$  which angle in quadrilateral EFGH must also measure  $65^\circ$ ?
- 6.) Find the measure of side HE.

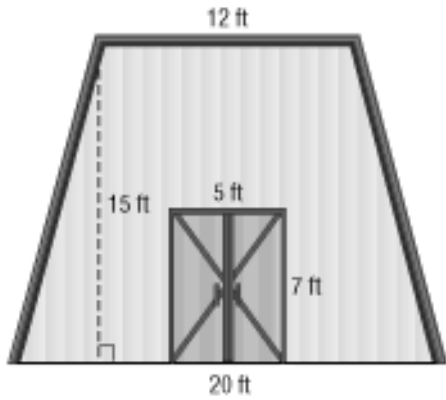
Use the image below to answer questions 7-8



7.) Calculate the *perimeter* of the figure.

8.) Calculate the *area* of the figure.

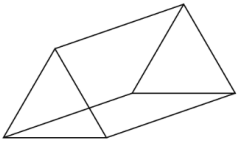
### Bob's Barn



9.) The image shows the front of Bob's barn. Bob plans on painting the front of his barn, not including the doors of the barn. How many square feet of surface will Bob need to paint?

10.) Match each 3-dimensional figure with the cross-section that would be formed if the figure were cut parallel to its base:

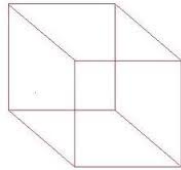
a.



\_\_\_\_\_



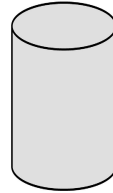
b.



\_\_\_\_\_



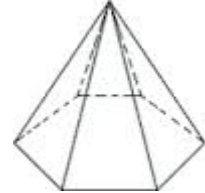
c.



\_\_\_\_\_



d.

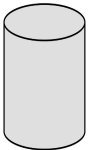


\_\_\_\_\_



11.) Match each 3-dimensional figure with the cross-section that would be formed if the figure were cut perpendicular to its base:

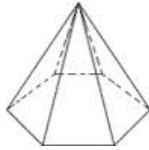
a.



\_\_\_\_\_



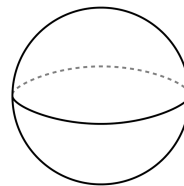
b.



\_\_\_\_\_



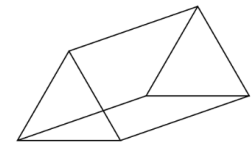
c.



\_\_\_\_\_



d.

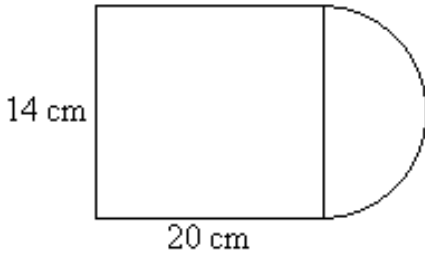


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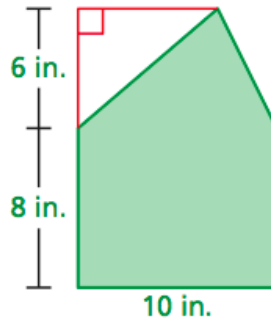


Find the area of each composite figure below:

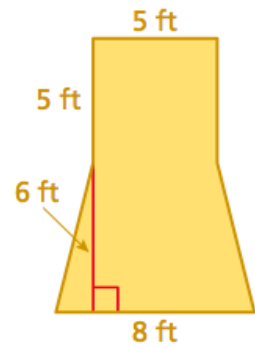
12.)



13.)

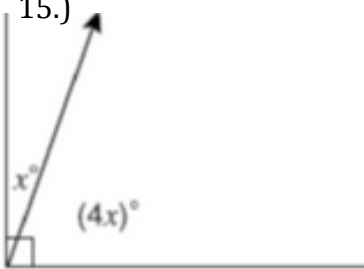


14.)

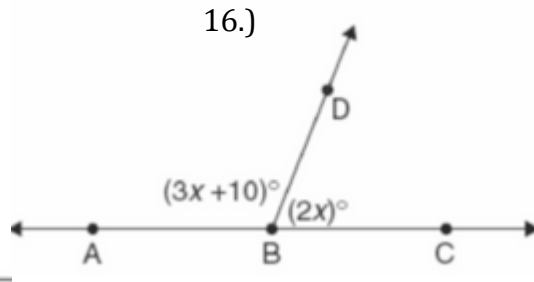


Find the value of "x" in each:

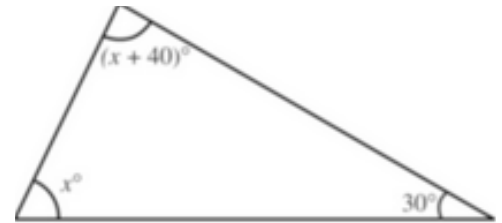
15.)



16.)

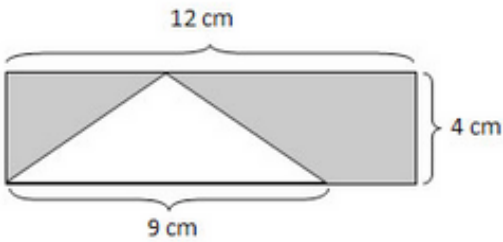


17.)

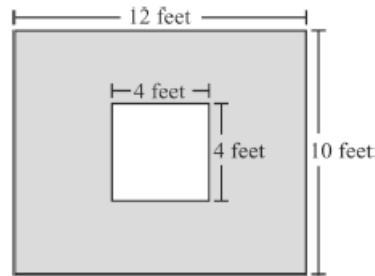


Find the area of each shaded region:

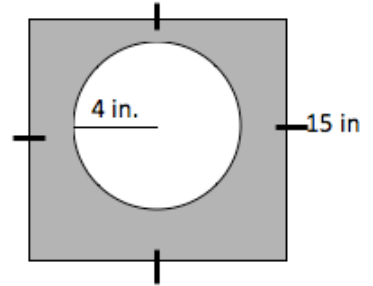
18.)



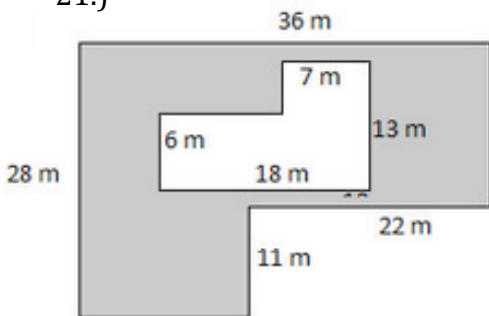
19.)



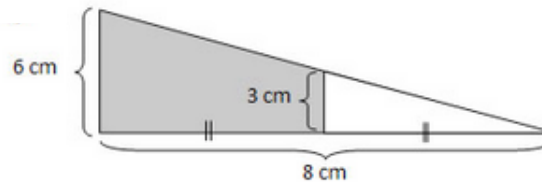
20.)



21.)



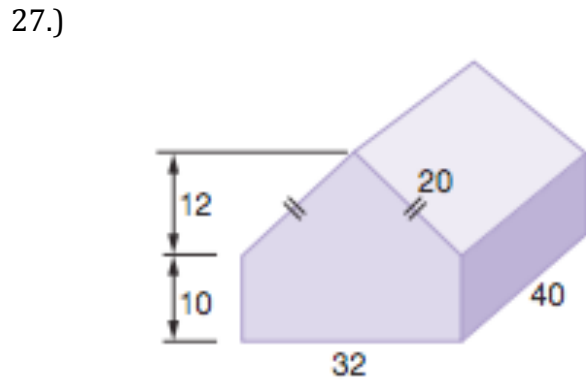
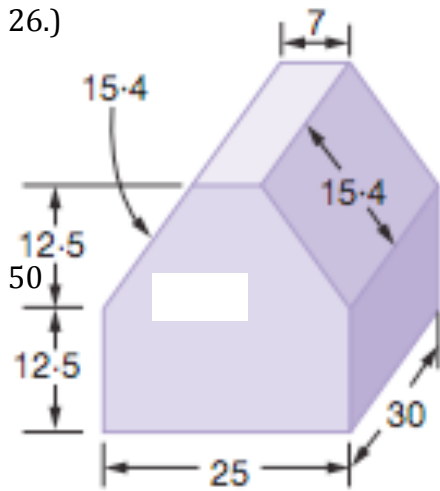
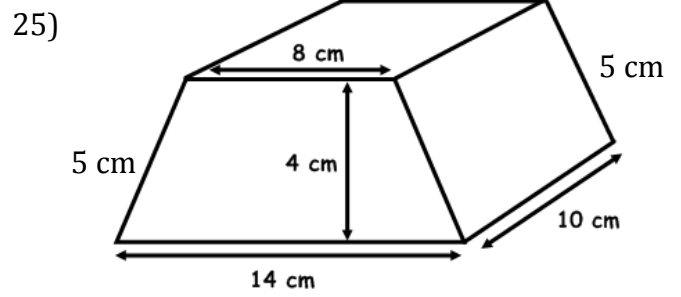
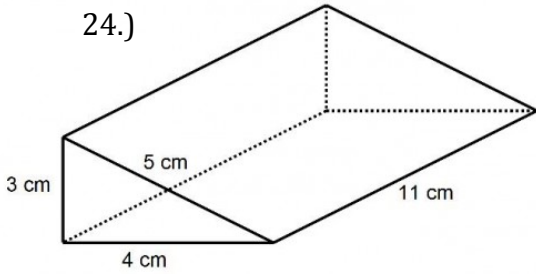
22.)



23.)

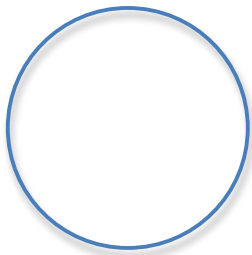


**Find the volume and surface area of each figure below:**



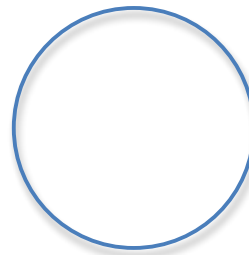
**Find the missing information for each circle:**

28.)



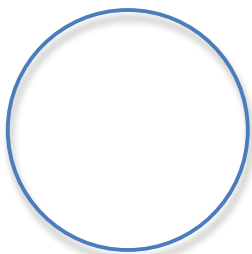
Radius: 5 in       
 Diameter:       
 Circumference:       
 Area:     

29.)



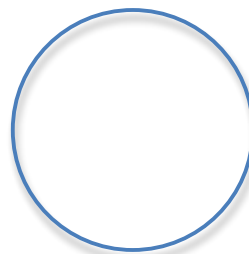
Radius:       
 Diameter: 8 m       
 Circumference:       
 Area:     

30.)



Radius:       
 Diameter:       
 Circumference: 12π  
 Area:     

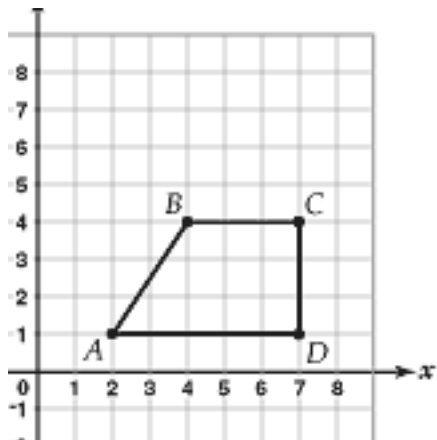
31.)



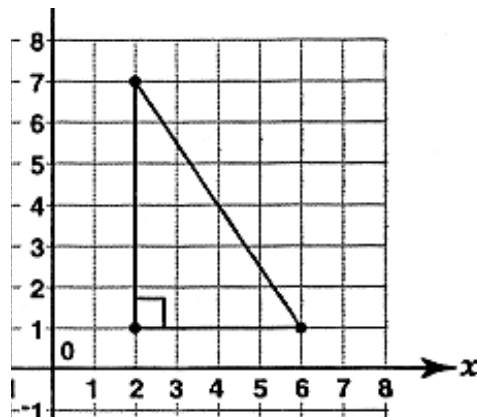
Radius:       
 Diameter:       
 Circumference:       
 Area: 49π

# Find the area of each polygon on the coordinate plane:

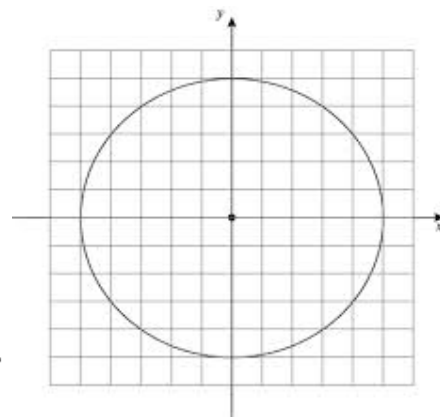
32.)



33.)



34.)



35.) Below is a list of angle measures and side lengths for some triangles, and some non-triangles. Decide whether each could be the dimension of a triangle, and then label the dimensions as "triangle" or "non-triangle". Justify your answer using the properties of triangles.

40°, 60°, 100°

55°, 63°, 62°

115°, 46°, 19°

56°, 47°, 77°

5 in, 7 in, 10 in

4 in, 6 in, 7 in

8 in, 9 in, 17 in.

12 in., 15 in, 30 in

26.) If Triangle ABC ~ Triangle PQR, find the value of a and b:

