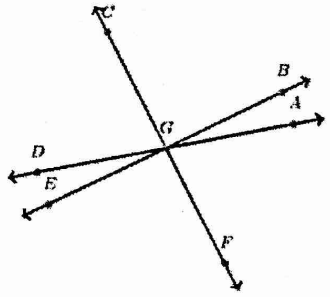
7th Grade Math Geometry Study Guide Name _____

Answer each question, show all of your work, and explain your answer if instructed to.

1.) Use the image below to answer questions: ***Example: ∠CGB is adjacent to ∠BGA***

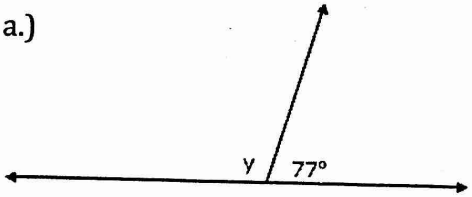


a.) Name 2 sets of adjacent angles b.) Name 3 sets of congruent angles

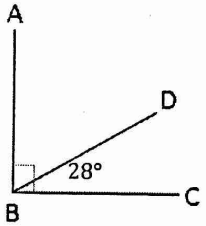
c.) Name two pairs of supplementary angles

2.) Find the missing angle measure in each set of complementary or supplementary angles:

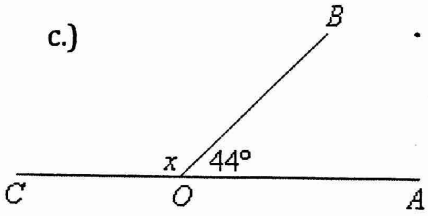
a.)



b.)



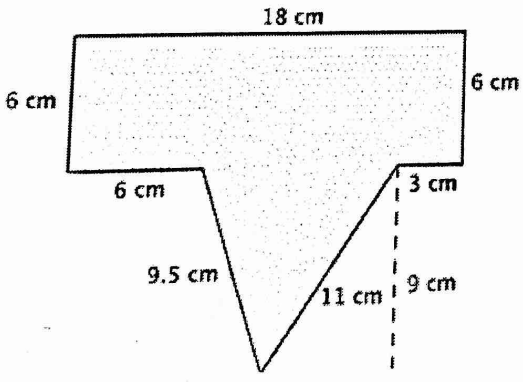
c.)



3.) 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, 7in	8 in, 9 in, 17 in.	12 in., 15 in, 30 in

4. Use the image below to answer questions

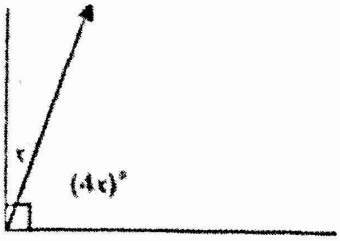


a.) Calculate the *perimeter* of the figure.

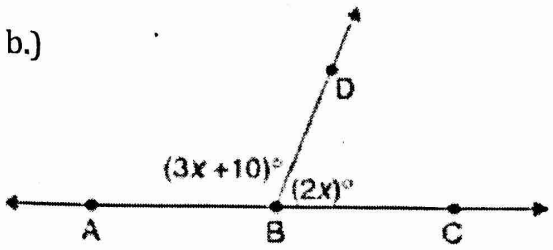
b.) Calculate the *area of the* figure.

5 **Find the value of "x" in each:**

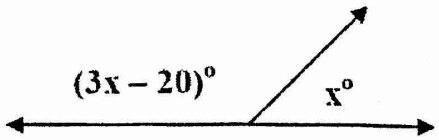
a.)



b.)

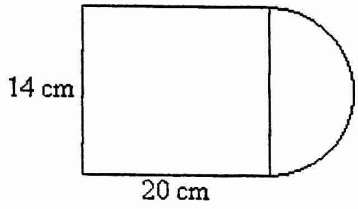


c.)

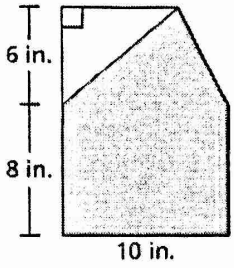


6 **Find the area of each composite figure:**

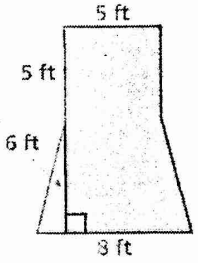
a.)



b.)

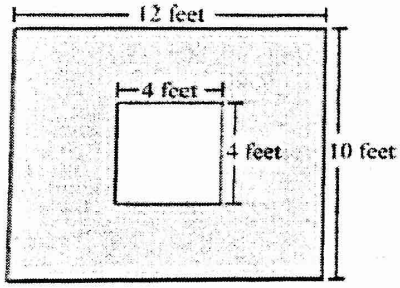


c.)

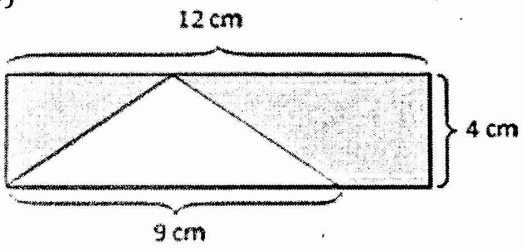


7 **Find the shaded area of each figure:**

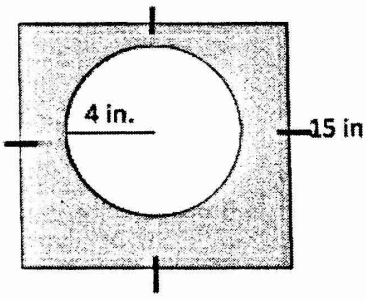
a.)



b)

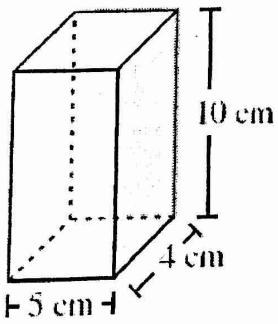


c.)

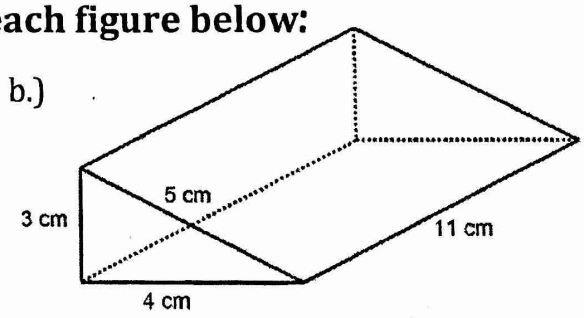


8 **Find the volume and surface area of each figure below:**

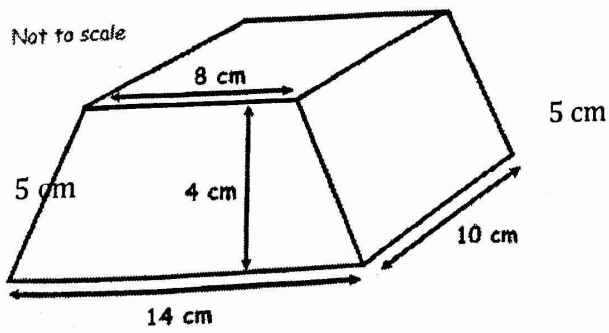
a.)



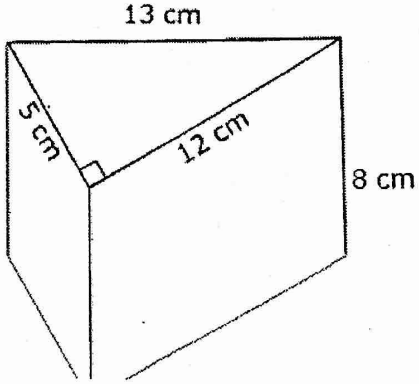
b.)

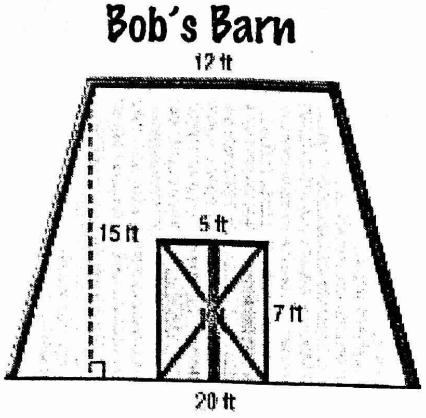


c.)



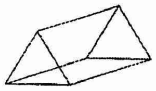
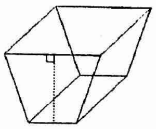
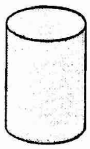
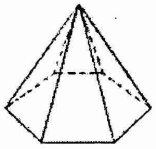
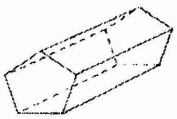
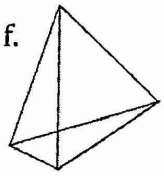
d.)





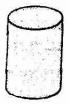
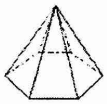
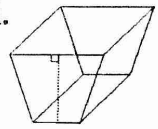
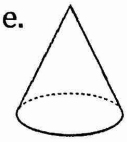
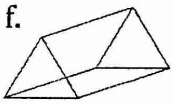
9 The image shows the front of Bob's barn. Bob plans on painting the front of his barn, ***not*** including the doors of the barn. How many square feet of surface will Bob need to paint?

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.  e.  f. 

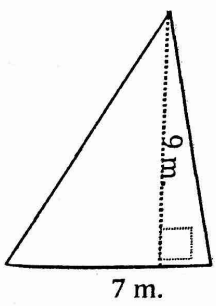
____ ____ ____ ____ ____ ____

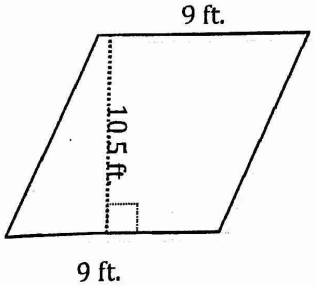
11 **Match each 3-dimensional figure with the cross-section that would be formed if the figure were cut *perpendicular* to its base:**

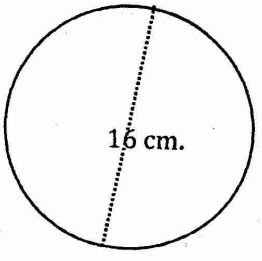
a.  b.  c.  d.  e.  f. 

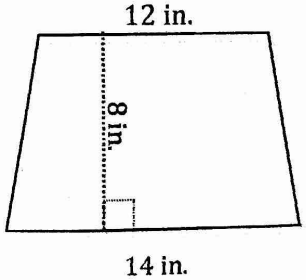
____ ____ ____ ____ ____ ____

12 **Find the area of each polygon below:**

a.) 

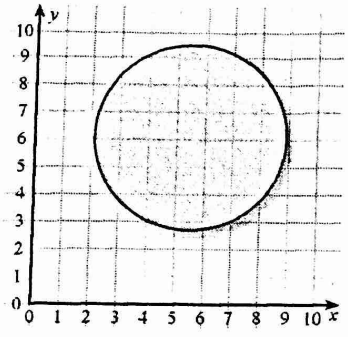
b.) 

c.) 

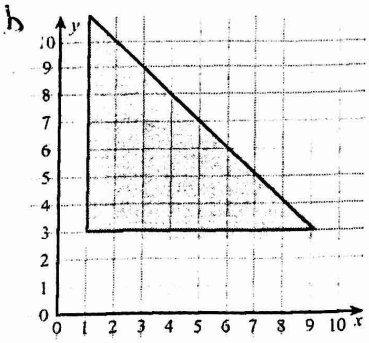
d.) 

13. **Find the area of each polygon on the coordinate plane:**

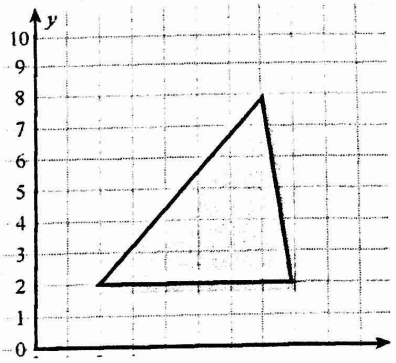
a.



b.



c.



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

a.) Radius: __5 in__

Diameter: _____

Circumference: _____

Area: _____

b.) Radius: _____

Diameter: ____8 m____

Circumference: _____

Area: _____

c.) Radius: _____

Diameter: _____

Circumference: 12π in.

Area: _____

d.

Radius: _____

Diameter: _____

Circumference: _____

Area: 49π ft^2

e.)

Radius: _____

Diameter: _____

Circumference: _____

Area: 169π in^2

15. The container shown below holds water for a farmer's pigs. How much water can this container hold when full?