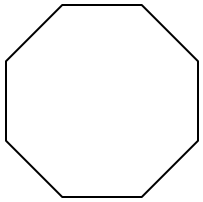
Geometry Name:_____

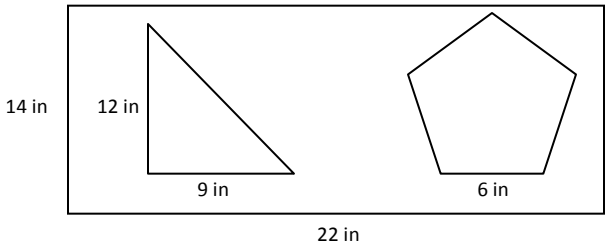
Unit 6 Review #2 Period_____Date_____

1. Classify the figure below based on the number of sides and concavity.



2. Determine the measures of one interior and one exterior angle for the regular polygons above:

3. Williams's elementary school has a bean bag toss at the school carnival. They cut out the polygons as shown in the diagram below.



a. What is the probability the bean bag will land in the triangle?

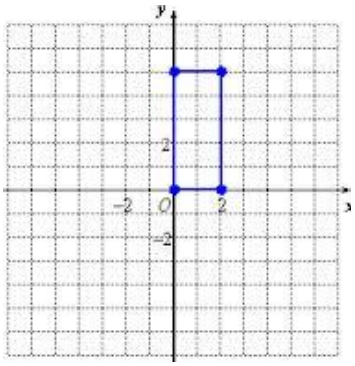
b. What is the probability the bean bag will land in the pentagon?

d. What is the probability the bean bag will land on the rectangular platform?

e. What is the probability that the bean bag will **NOT** land in the triangle?

4. The rectangle below is rotated around its horizontal axis to create a 3D object.

a. Describe the solid that is made from this rotation.



b. Determine the volume of this 3-D object.

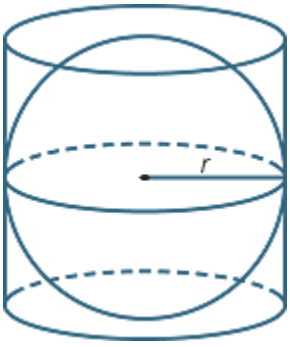
5. Each coin pictured has a diameter of 20 *mm* and a thickness of 2 mm.

a. What is the volume of the stack of coins?

b. Draw a cylinder that has the same volume and radius. Label all the dimensions in your drawing.

c. If the radius of your drawing is doubled, but the volume does not change, what would be the new height of your drawing?

6. The ball fits perfectly inside a cylinder with a radius of 3 inches and a height of 6 inches. What is the volume of the space not occupied by the ball? Show all your work. Leave your answer in terms of π.



7. Find the weight of the marble block shown below. Density of marble is 160 lbs/ft^3.
Show all your work. Length = 5 feet. Width = 3 feet. Height = 3 feet.

8. Marissa wants to build a concrete deck that has to be 6 inches deep. She has a budget of $3000. The width of the house is 200 inches. How far out can her deck go, if concrete costs $0.02 per cubic in.? Show all your work and explain your answer.

9. Mr. Clarke fills up a paper cone with water, pokes a hole in the tip of the cone, and holds it over a cylinder with a radius of 3 inches. The paper cone has a radius of 3 inches and a height of 12 inches.

a. What is the volume of water in the cone? Leave your answer in terms of pi.

b. How much time will it take the cone to completely drain into the cylinder if the water drains at a rate of 6 cubic inches per minute? Leave your answer in terms of π.

c. How high would the water fill up the cylinder after it is completely drained?