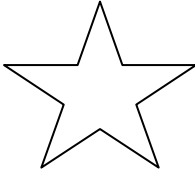
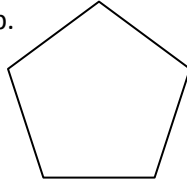


1. Classify the figures below based on the number of sides and concavity.

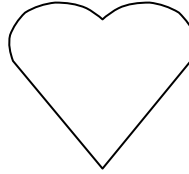
a.



b.

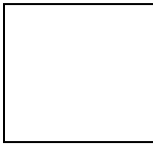


c.

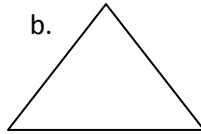


2. Determine the measures of one interior and one exterior angle for the regular polygons below:

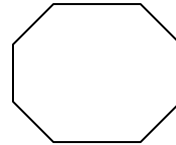
a.



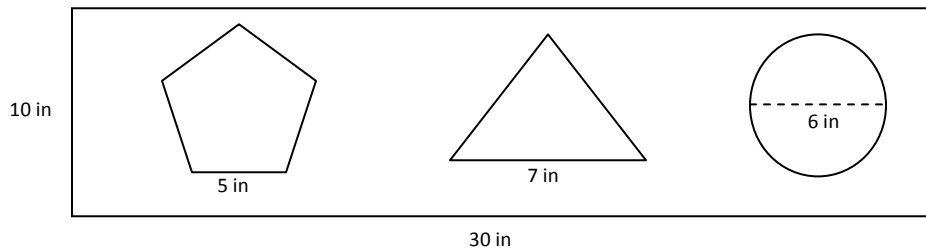
b.



c.



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



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

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

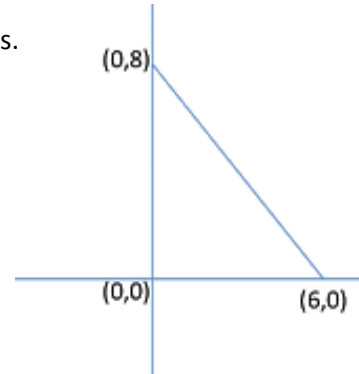
c. What is the probability the bean bag will land in the circle?

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 triangle below is rotated around its horizontal axis to create a 3D object.

a. Describe the solid that is made from rotating about the y -axis.



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

5. Each coin pictured has a diameter of 3 cm and a thickness of $\frac{1}{2} cm$.

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 tennis balls in the canister have a radius of 3 cm and the height of the canister is 18 cm .
Determine the volume of space not occupied by the tennis balls.



7. If the dimensions of the block of cheese below are 4 cm by 6cm by 10 cm, find the weight of the block of cheese. (Density of cheese is 1.892 oz/cm^3)



8. Frank wants to dig a garden that is going to be 100 inches wide and 110 inches long. He has a budget of \$1500 to fill the garden with soil. How deep should he make the garden if garden soil costs \$0.03 per cubic inch?
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 5 inches. The paper cone has a radius of 5 inches and a height of 9 inches.
- What is the volume of water in the cone? Leave your answer in terms of π .
 - How much time will it take the cone to completely drain into the cylinder if the water drains at a rate of 5π cubic inches per minute?
 - How high would the water fill up the cylinder after it is completely drained?