**The Switch** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe the relationship between circumference and diameter.
2. Describe three differences between circumference and area.

a)

b)

c)

1. Janet’s family purchased a swimming pool. They want to make a cover for the pool and put a fence around it.

9 ft

1. Determine the circumference of the pool to the nearest tenth.
2. The fence will be 4 feet away from the pool all the way around. Find the length of the fence.
3. Calculate the area of the pool top for the cover.
4. Janet wants to know how much water her family’s pool can hold. Which of the following does Janet need to find?
   1. Area
   2. Circumference
   3. Surface area
   4. Volume
5. If the pool is only 1 foot deep, how many cubic feet of water would the pool hold? (Remember the properties of the number 1.) Why is the measure in cubic feet?
6. If the pool’s depth is doubled to 2 feet deep, what happens to the volume of the pool? How many cubic feet of water would the pool hold?
7. Janet’s family pool is 4 feet deep. How many cubic feet of water does the pool hold?

**The Switch - KEY**

1. Describe the relationship between circumference and diameter.

*C* = π*d*

1. Describe three differences between circumference and area. Answers may vary.

a) Circumference is the distance around while area is the distance within.

b) Circumference can only be calculated for round things while area can be calculated for any 2-D image.

c) Circumference is measured in linear units while area is measured in square units.

1. Janet’s family purchased a swimming pool. They want to make a cover for the pool and put a fence around it.

9 ft

1. Determine the circumference of the pool to the nearest tenth. 18π ≈ 56.52 ft
2. The fence will be 4 feet away from the pool all the way around. Find the length of the fence.

26 π ≈ 81.64 ft

1. Calculate the area of the pool top for the cover.

81 π ≈ 254.34 ft2

1. Janet wants to know how much water her family’s pool can hold. Which of the following does Janet need to find?
   1. Area
   2. Circumference
   3. Surface area
   4. Volume
2. If the pool is only 1 foot deep, how many cubic feet of water would the pool hold? (Remember the properties of the number 1.) Why is the measure in cubic feet?

81 π ≈ 254.34 ft3 Volume is three-dimensional

1. If the pool’s depth is doubled to 2 feet deep, what happens to the volume of the pool? How many cubic feet of water would the pool hold? It doubles. 162π ≈ 508.68 ft3
2. Janet’s family pool is 4 feet deep. How many cubic feet of water does the pool hold?

324 π ≈ 1,017.36 ft3