### 5.3b Area of a Circle

1. Calculate the area of each circle. Express your answer both exactly (in terms of pi) and approximately, to the nearest tenth of a unit.



1. The strongest winds in Hurricane Katrina extended 30 miles in all directions from the center of the hurricane.
	1. Draw a diagram of the situation.
	2. What is the area that felt the strongest winds?
2. By calculating the areas of the square and the circle in the diagram, determine how many times larger in area the circle is than the square.

1. A circle with radius 8 centimeters is enlarged so its radius is now 24 centimeters.
	1. By what scale factor did the circumference increase? Show your work or justify your answer.
	2. By what scale factor did the area increase? Show your work or justify your answer.
	3. Explain why this makes sense, using what you know about scale factor.
2. How many circles of radius 1” could fit in a circle with radius 5” (if you could rearrange the area of the circles of radius 1 in such a way that you completely fill in the circle of radius 5)? Justify your answer.
3. The area of 5 objects is given. Calculate the radius of each object’s surface, to the nearest hundredth of a unit.





Area of round area rug

153.86 ft2

Area of wicker table top

28.26 ft2

Area of base

 of trash can

12.56 ft2

Area of side of a water tank

153.86 ft2

Area of a glass in a porthole 3.14 ft2

**Exit Ticket:**

**What I might need some more help with:**

**How I feel about scale factor:**

  