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UNIT 4 LESSON 19

**AIM**: SWBAT solve problems requiring the area of a circle

**THINK ABOUT IT!**

A person is buying a cover for a circular pool. They measure the distance from one side of the pool to the other through the center which measures 19 feet. The person has to send the approximate size of cover they need rounded to the nearest hundredth of a foot. What measurement does the person have to send in to get the right sized cover for the pool?

Key Point

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**Interaction with New Material**

Ex. 1) Melissa is staining the deck of her house which is in the form of a rectangle and semi-circle. The rectangular part of the deck has a length of 14 feet and a width of 8 feet. The semi-circle part of the deck connects to the width of the rectangular part perfectly. What is the approximate amount of stain that she will need to cover the deck twice?

**PARTNER PRACTICE**

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| *Bachelor Level* |

1. The distance from the edge to the center of a circle is 4 feet. How many square feet of space does the circle take up? Find both the approximate and exact value and label your answers accordingly.

1. How did you know how to solve the previous problem? What in the problem indicated how you would solve?

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| *Master Level* |

1. A t-shirt being sold for $24.95 has a circle in the middle of the shirt. The circle of a medium t-shirt has a radius of 7 inches. A large shirt has a circle with a diameter of 16 inches. Approximately how much larger is the circle on the large shirt?



**INDEPENDENT PRACTICE**

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| *Bachelor Level* |

1. Giant circular lily pads found in Brazil can have a diameter of 12 feet. What is the area of the top of the lily pad?
2. What is the area of half of this circle?



1. A small radio station broadcasts in all directions to a distance of 40 miles. About how many square miles are in the station’s broadcast area?
2. About 1,256 square miles
3. About 2,512 square miles
4. About 5,024 square miles
5. About 20,096 square miles

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| *Master Level* |

1. How much larger is the area of circle A compared to circle B? Use 3.14 for pi.

Circle B

Circle A

r = 2.5in

d = 9in

1. Tiffany’s desk decoration is in the shape of a semi-circle. The straight portion of the semi-circle measures 15cm long. Read each statement below and determine whether it is “true” or “false.”

|  |  |  |
| --- | --- | --- |
|  | True | False |
| The decoration takes up exactly 112.5π cm of space |  |  |
| If Tiffany wanted to place a ribbon along the outside of the ribbon, she would need 7.5πcm + 15cm of ribbon |  |  |
| If Tiffany wanted to paint the decoration purple, she would need about 88 square cm of paint |  |  |
| If Tiffany wanted to paint half of the decoration purple, she would need exactly 56.25 square cm of paint |  |  |

1. Brian’s dad wants to put a circular pool in their pool. He can choose between pools with diameters of 15 ft, 17 ft, or 22 ft.

Step A: Determine how much more space the pool with a diameter of 22 feet would take up compared to the 15 foot diameter pool.

Step B: Determine how much more space the 15ft and 17ft pools combined would take up compared to the 22ft pool.

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| *PhD Level* |

1. Explain how you would be able to determine the area of a circle if you were given the circumference. Draw a diagram and provide an example in your explanation.

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1. Explain why it would be more difference to determine the circumference of a circle given the area.

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**EXIT TICKET**

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| Self-assessment | I mastered the learning objective today. | I am almost there.  | Need more practice and feedback. |
| Teacher feedback | You mastered the learning objective today. | You are almost there.  | You need more practice and feedback. |

1. A circular park is 24 yards from one side to the other passing through the middle. How many exact square yards of fertilizer are needed to completely cover the entire park?
2. Two circular pools are at a city park. One pool is 10 feet across and the other pool has a radius of 7 feet. What is the approximate difference in area of the two pools?