

Name _____

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Student Signature _____ Date _____

Teacher Signature _____ Date _____

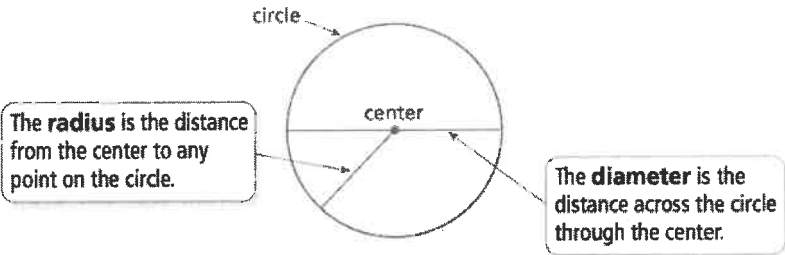
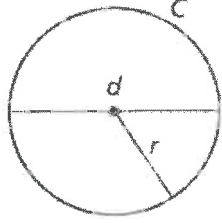

Name _____ Class Period _____

Evaluation of Notes

Criteria	10 – Unsatisfactory	20 – Satisfactory	25 – Good	30 – Excellent	Score
Set-up and Neatness	<ul style="list-style-type: none"> • No name • Paper appears to have been scrunched, put through a blender, or used as a napkin 	<ul style="list-style-type: none"> • Name • Handwriting is hard to read. 	<ul style="list-style-type: none"> • Name and class period • Some extra notes added 	<ul style="list-style-type: none"> • Name and class period • Many extra notes added 	_____
Completion of practice	<ul style="list-style-type: none"> • One or more sections are blank 	<ul style="list-style-type: none"> • Some practice is not complete • Not all work is shown 	<ul style="list-style-type: none"> • All practice is complete • Some work not shown 	<ul style="list-style-type: none"> • All practice complete • All work shown 	_____
Text marking	<ul style="list-style-type: none"> • None of the notes are highlighted or underlined 	<ul style="list-style-type: none"> • One or more sections are missing highlighting or underlining 	<ul style="list-style-type: none"> • Each section contains highlighting or underlining. 	<ul style="list-style-type: none"> • Every key point is highlighted or underlined and it is done so neatly. 	_____
Completed on time or within one day of being absent? +10 points!					_____
Total Score					_____

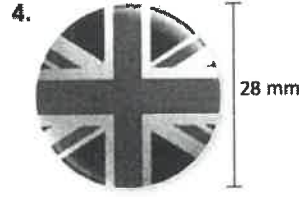
Evaluation of Homework

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Set-up and Neatness	<ul style="list-style-type: none"> • No name • Paper appears to have been scrunched, put through a blender, or used as a napkin 	<ul style="list-style-type: none"> • Name • Handwriting is hard to read. 	<ul style="list-style-type: none"> • Name and class period • Some answers are boxed 	<ul style="list-style-type: none"> • Name and class period • All answers are boxed 	_____
Completion of practice	<ul style="list-style-type: none"> • The homework is not done or attempted. 	<ul style="list-style-type: none"> • Some problems are not done. • Not all work is shown 	<ul style="list-style-type: none"> • All practice is complete • Some work not shown 	<ul style="list-style-type: none"> • All practice complete • All work shown 	_____
Total Score					_____

Chapter 8	Circles and Area
MAFS.7.G.2.4	Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.
Essential Question	How can you find the circumference of a circle? <i>In this lesson I am learning about circles and circumference so I can use them to help me find the circumference of a circle.</i>
8.1 Circles and Circumference	<p>A circle is the set of all points in a plane that are the same distance from a point called the center.</p> 
	<p>Radius and Diameter</p> <p>Words The diameter d of a circle is twice the radius r. The radius r of a circle is one-half the diameter d.</p> <p>Algebra Diameter: $d = 2r$ Radius: $r = \frac{d}{2}$</p>
	<p>The distance around a circle is called the circumference. The ratio $\frac{\text{circumference}}{\text{diameter}}$ is the same for <i>every</i> circle and is represented by the Greek letter π, called pi. The value of π can be approximated as 3.14 or $\frac{22}{7}$.</p>
	<p>Circumference of a Circle</p> <p>Words The circumference C of a circle is equal to π times the diameter d or π times twice the radius r.</p> <p>Algebra $C = \pi d$ or $C = 2\pi r$</p> 
	<p> Vocabulary and Concept Check</p> <ol style="list-style-type: none"> VOCABULARY What is the relationship between the radius and the diameter of a circle? WHICH ONE DOESN'T BELONG? Which phrase does <i>not</i> belong with the other three? Explain your reasoning. <ul style="list-style-type: none"> the distance around a circle π times twice the radius π times the diameter the distance from the center to any point on the circle

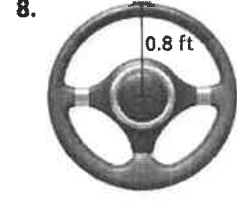
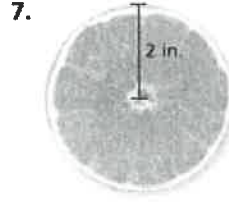
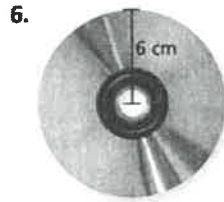
Homework
8.1 Practice A
#4-6

Find the radius of the button.



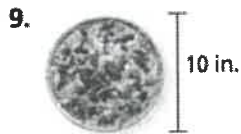
Homework
8.1 Practice A
#1-3

Find the diameter of the object.



Homework
8.1 Practice A
#7-9

Find the circumference of the pizza. Use 3.14 or $\frac{22}{7}$ for π .

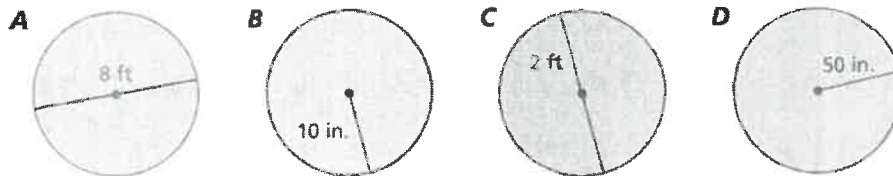


12. **CHOOSE TOOLS** Choose a real-life circular object. Explain why you might need to know its circumference. Then find the circumference.

13. **SINKHOLE** A circular sinkhole has a circumference of 75.36 meters. A week later, it has a circumference of 150.42 meters.

- Estimate the diameter of the sinkhole each week.
- How many times greater is the diameter of the sinkhole now compared to the previous week?

14. **REASONING** Consider the circles *A*, *B*, *C*, and *D*.

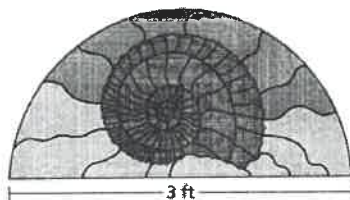


- a. Without calculating, which circle has the greatest circumference?
- b. Without calculating, which circle has the least circumference?

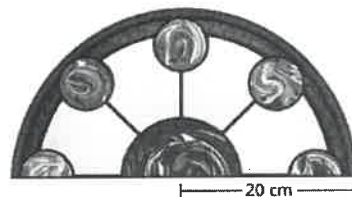
Homework
8.1 Practice A
#10-12, 15

Find the perimeter of the window.

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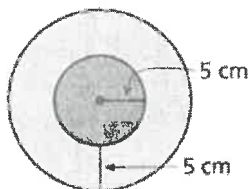


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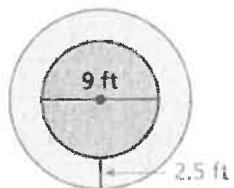


Find the circumferences of both circles.

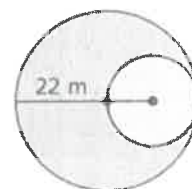
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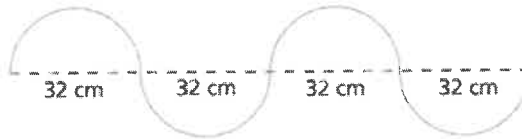


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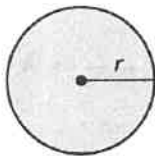
20. **STRUCTURE** Because the ratio $\frac{\text{circumference}}{\text{diameter}}$ is the same for every circle, is the ratio $\frac{\text{circumference}}{\text{radius}}$ the same for every circle? Explain.

21. **WIRE** A wire is bent to form four semicircles. How long is the wire?

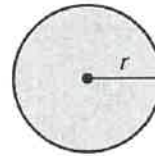


Find the missing dimension of the circle.

22. Diameter = 24 in.



23. Circumference = 314 m



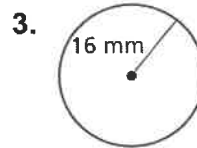
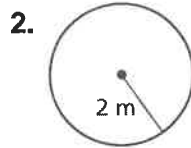
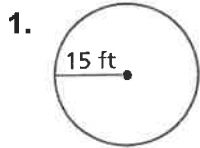
24. The radius of a circle is 18 meters. What is the diameter?

25. Your kitchen clock has a radius of 5 inches. What is the circumference?

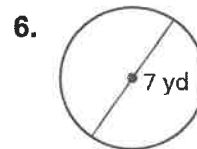
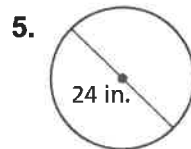
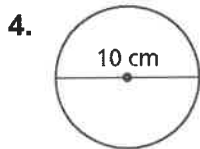
8.1

Practice A

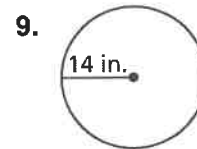
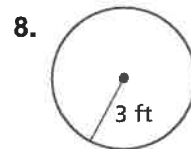
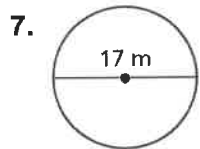
Find the diameter of the circle.



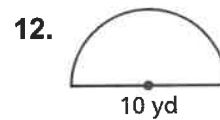
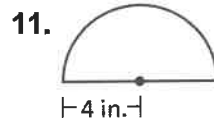
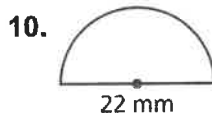
Find the radius of the circle.



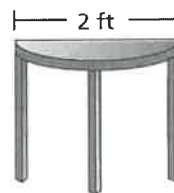
Find the circumference of the circle. Use 3.14 or $\frac{22}{7}$ for π .



Find the perimeter of the semicircular region.



13. A circular ink spot has a circumference of 25.12 millimeters. A minute later, it has a circumference of 75.63 millimeters.
- Estimate the diameter of the ink spot each minute.
 - How many times greater is the diameter of the ink spot compared to the previous minute?
14. You are enclosing a circular flower garden with a fence that costs \$2.99 per foot. The radius of the garden is 7 feet. How much will it cost to buy the fence?
 (Use $\frac{22}{7}$ for π .)
15. Find the perimeter of the semicircular tabletop shown at the right.



MAFS.7.G.2.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.

Essential Question How can you find the perimeter of a composite figure?
In this lesson I am learning how to use what I know about perimeter and circumference so I can find the distance around a figure.

8.2 Perimeters of Composite Figures



Vocabulary and Concept Check

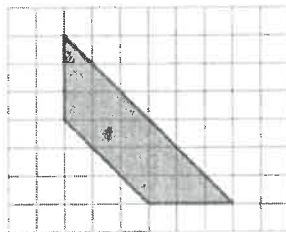
- REASONING** Is the perimeter of the composite figure equal to the sum of the perimeters of the individual figures? Explain.
- OPEN-ENDED** Draw a composite figure formed by a parallelogram and a trapezoid.



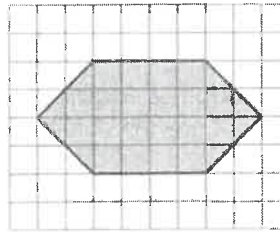
Homework
8.2 Practice A
#1-3

Estimate the perimeter of the figure.

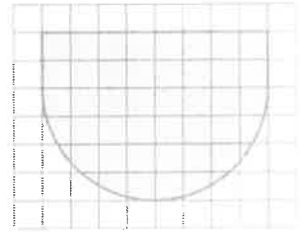
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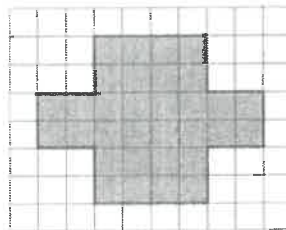
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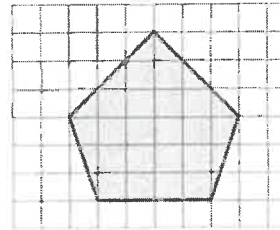
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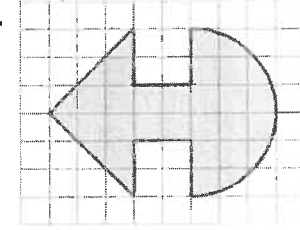
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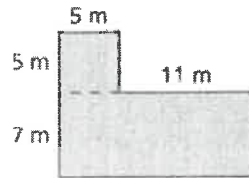
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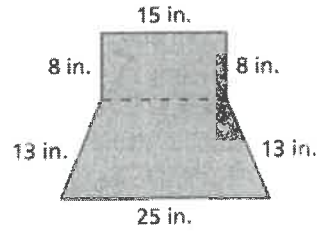
**Homework
8.2 Practice A
#4-9**

Find the perimeter of the figure.

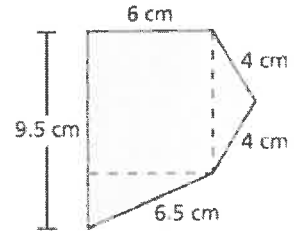
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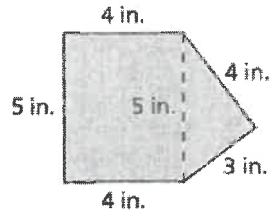
10.



11.



12. ERROR ANALYSIS Describe and correct the error in finding the perimeter of the figure.

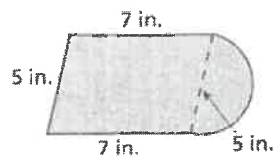


$$\text{Perimeter} = 4 + 3 + 4 + 5 + 4 + 5 = 25 \text{ in.}$$

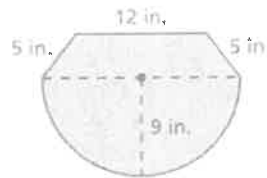
**Homework
8.2 Practice A
#10-11**

Find the perimeter of the figure.

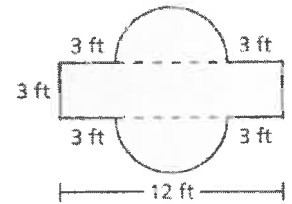
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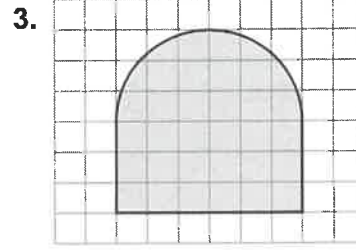
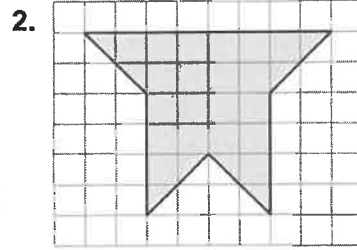
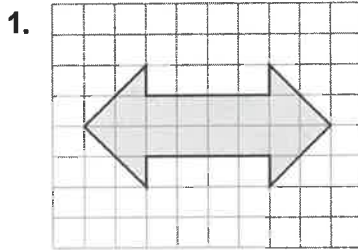
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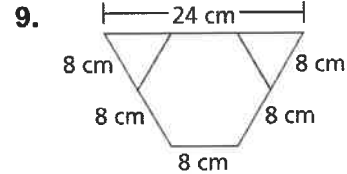
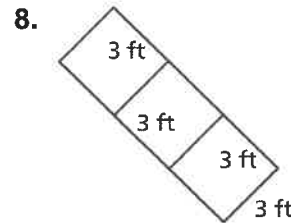
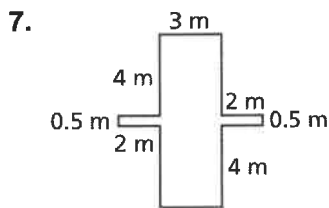
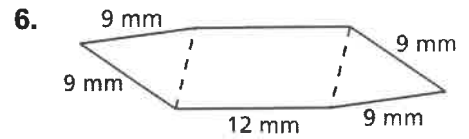
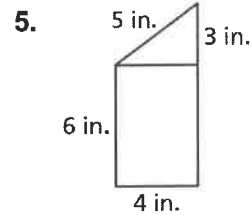
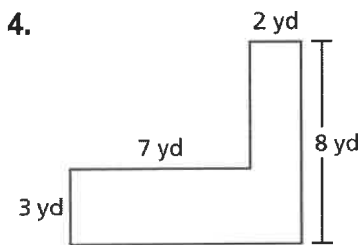
8.2

Practice A

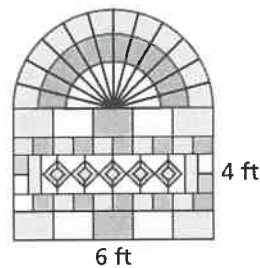
Estimate the perimeter of the figure.



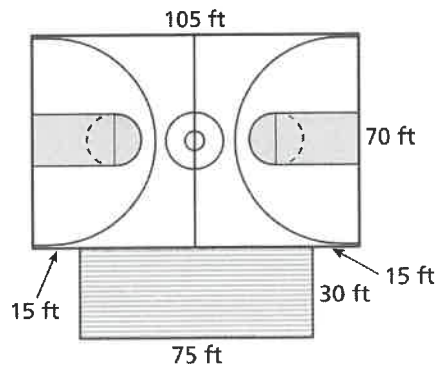
Find the perimeter of the figure.



10. A stained glass window has the dimensions shown. What is the perimeter of the hole that should be cut in the wall in order for the window to be installed?



11. The dimensions of a new city park basketball court are shown at the right. A fence is to be built around the court and bleachers. The fence costs \$8.99 per foot. How much will it cost to install the fence?



MAFS.7.G.2.4 Know the formulas for the area and circumference of a circle and use them to solve problems; give an informal derivation of the relationship between the circumference and area of a circle.


Essential Question How can you find the area of a circle?
In this lesson I will learn the formula for the area of a circle so I can find the area of a circle.

8.3 Areas of Circles

Area of a Circle

Words The area A of a circle is the product of π and the square of the radius.

Algebra $A = \pi r^2$

 **Vocabulary and Concept Check**

- VOCABULARY** Explain how to find the area of a circle given its diameter.
- DIFFERENT WORDS, SAME QUESTION** Which is different? Find "both" answers.

What is the area of a circle with a diameter of 1 m?

What is the area of a circle with a diameter of 100 cm?

What is the area of a circle with a radius of 100 cm?

What is the area of a circle with a radius of 500 mm?

Homework
8.3 Practice A
#1-9

Find the area of the circle. Use 3.14 or $\frac{22}{7}$ for π .

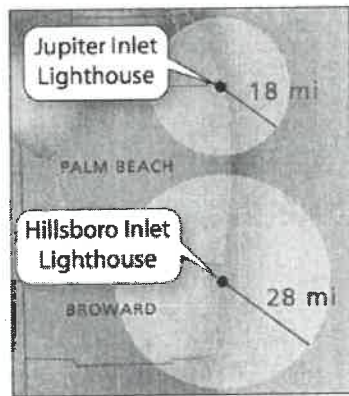


9. Find the area of a circle with a diameter of 56 millimeters.

10. Find the area of a circle with a radius of 5 feet.

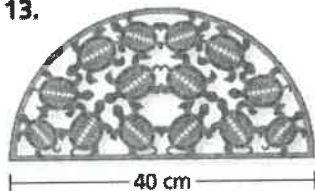
11. **TORTILLA** The diameter of a flour tortilla is 12 inches.
What is the area?

12. **LIGHTHOUSE** The Hillsboro Inlet Lighthouse lights up how much more area than the Jupiter Inlet Lighthouse?

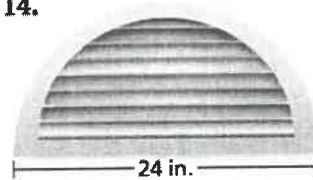


Find the area of the semicircle.

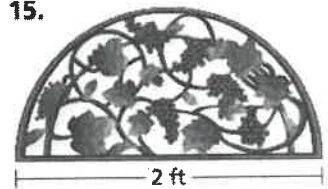
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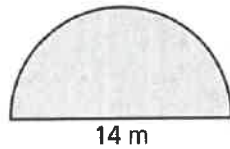


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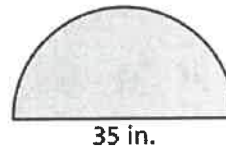


Find the perimeter and area of the semicircle.

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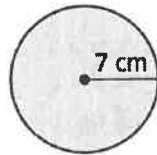


17.

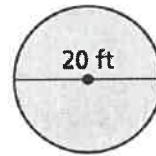


Find the circumference and area of the circle. Use 3.14 or $\frac{22}{7}$ for π .

18.



19.



20. The top of a glass coffee table is a circle. The circumference is 15.7 feet.

a. What is the radius of the table?

b. What is the area of the table?



What is the area of the circle in square centimeters?



What is the area of half of the circle in square inches?

A picture of a gong is shown.

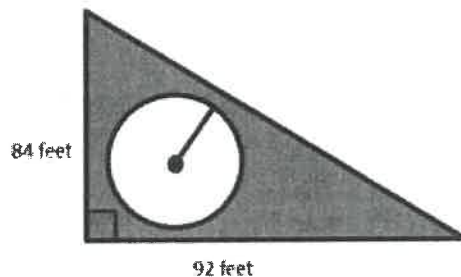


It is composed of 3 different-sized circles.

- The circumference of the smallest circle is 15.7 inches.
- The diameter of the whole gong is 21 inches.

What is the area of the middle circle? (Use $\pi = 3.14$)

Mark placed a pool in his backyard, which is enclosed by a triangular fence.



The radius of the pool is 20.5 feet. How much of the backyard area is not covered by the pool?

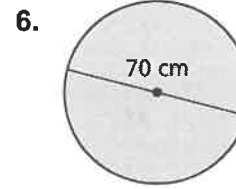
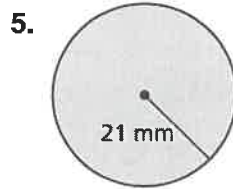
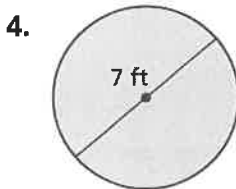
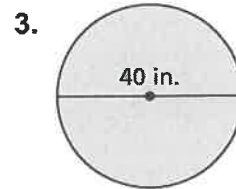
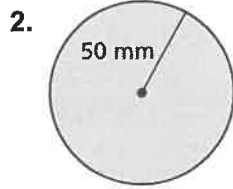
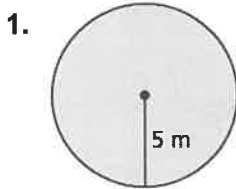
The circumference of a circle is 53.38 centimeters.

What is the area in square centimeters? Use 3.14 for π .

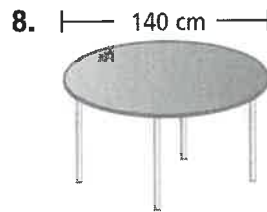
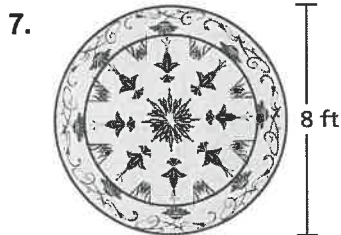
8.3

Practice A

Find the area of the circle. Use 3.14 or $\frac{22}{7}$ for π .



Find the area of the object.



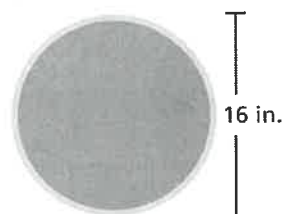
10. You use the compass to draw a circle. What will be the area of the circle?



11. What fraction of a square inch is the area of one side of a penny? Use $\frac{22}{7}$ for π . Write your answer in simplest form.




12. To make a pizza, you spread pizza sauce over all but a 1-inch area around the outside edge as shown. What area of the crust is covered with sauce?



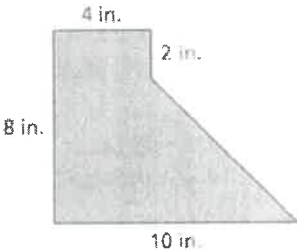
MAFS.7.G.2.6 Solve real-world and mathematical problems involving area, volume and surface area of two- and three-dimensional objects composed of triangles, quadrilaterals, polygons, cubes, and right prisms.

Essential Question How can you find the area of a composite figure?
In this lesson I will learn how to use what I know about finding area of basic shapes to find the area of a composite figure.

8.4 Areas of Composite Figures

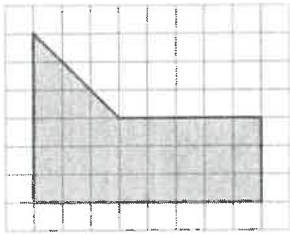
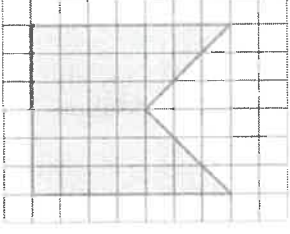
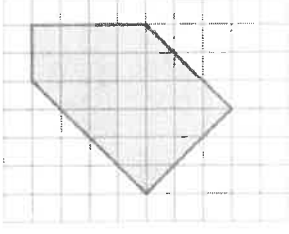
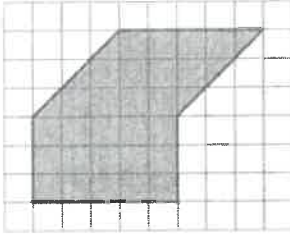
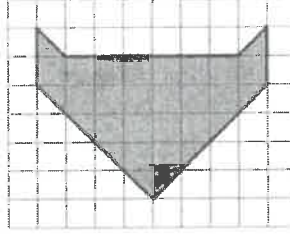
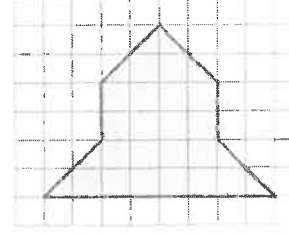
 **Vocabulary and Concept Check**

- REASONING** Describe two different ways to find the area of the figure. Name the types of figures you used and the dimensions of each.
- REASONING** Draw a trapezoid. Explain how you can think of the trapezoid as a composite figure to find its area.



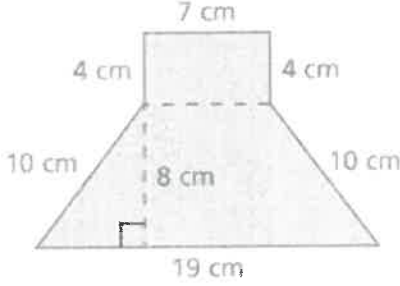
Homework 8.4 Practice A #1-3

Find the area of the figure.

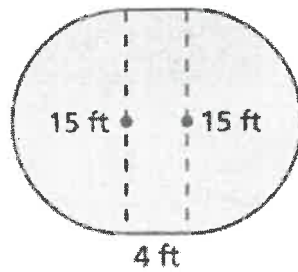
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Homework 8.4 Practice A #4-9

Find the area of the figure.

- 

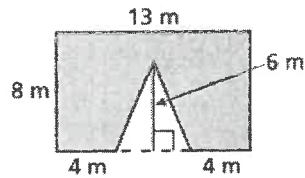
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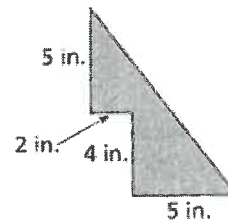
11. **OPEN-ENDED** Trace your hand and your foot on grid paper. Then estimate the area of each. Which one has the greater area?

Find the area of the figure.

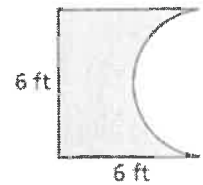
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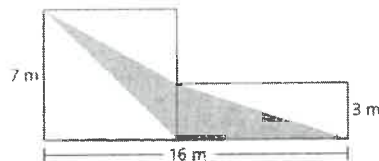
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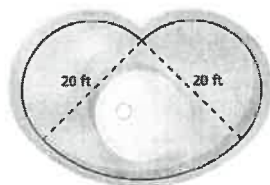
14.



15. **STRUCTURE** The figure is made up of a square and a rectangle. Find the area of the shaded region.

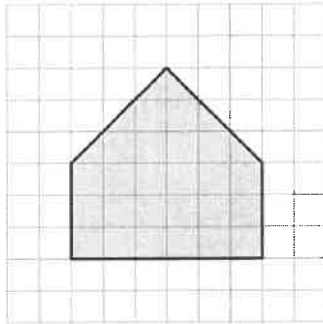


16. **FOUNTAIN** The fountain is made up of two semicircles and a quarter circle. Find the perimeter and the area of the fountain.

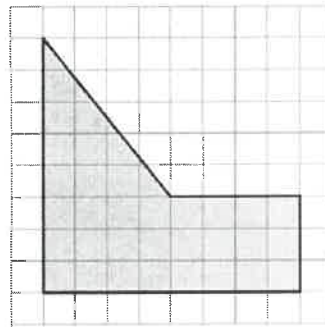


Find the area of the figure.

17.

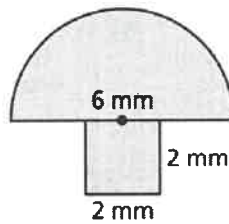


18.

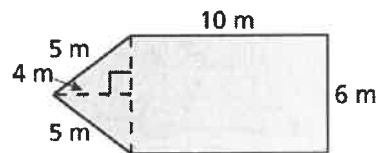


Find the perimeter and area of the figure.

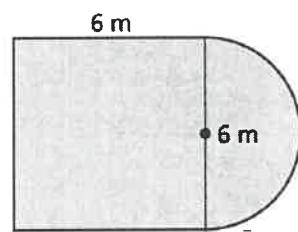
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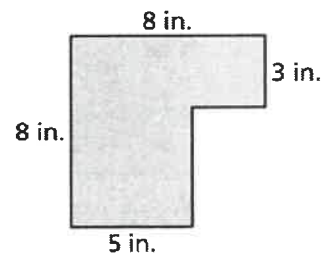
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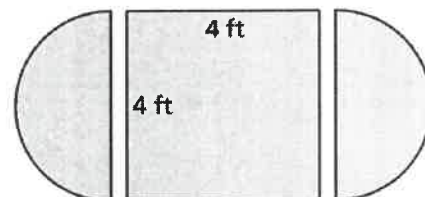
21.



22.



23. A square table 4 feet on each side has two drop leaves, each a semicircle 4 feet in diameter.

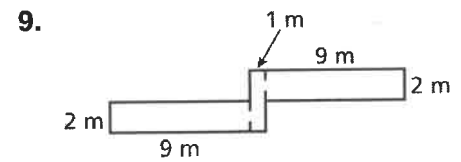
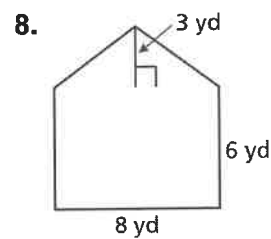
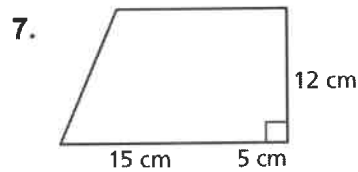
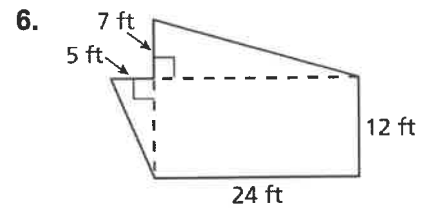
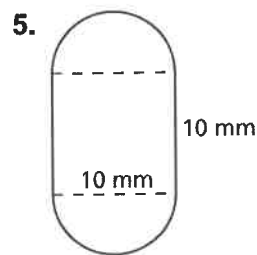
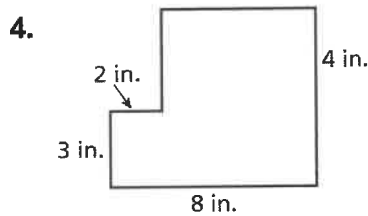
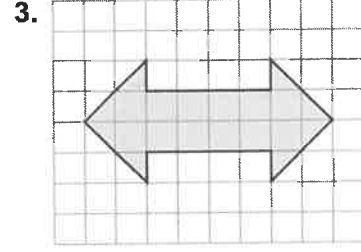
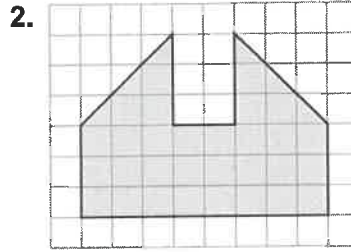
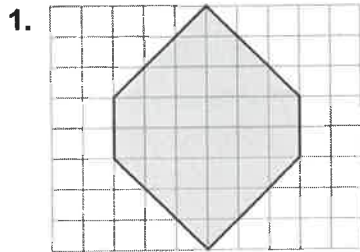


a. Find the area of the table with and without the drop leaves.

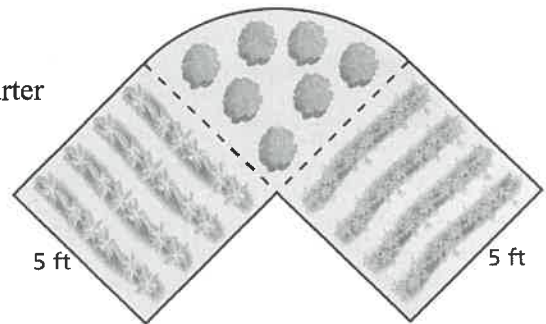
b. Find the perimeter of the table with and without the drop leaves.

8.4 Practice A

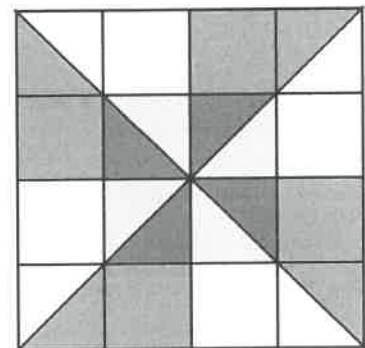
Find the area of the figure.



10. A garden is made up of two squares and a quarter circle. What are the perimeter and area of the garden?



11. A pinwheel design for a quilt is shown at the right. Each square of the design has a side length of 3 inches.
- Find the total area of the design.
 - Find the total area of the four large shaded triangles.
 - The quilt will be made of 30 pinwheel designs. The material to make the large triangles costs \$0.08 per square inch. How much will it cost to purchase the material to make the triangles for the quilt?

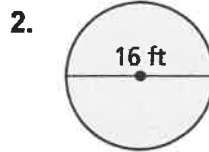
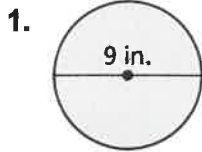


Chapter 8

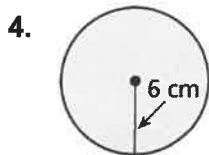
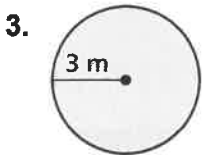
Take Home Quiz #1

For use after Section 8.2

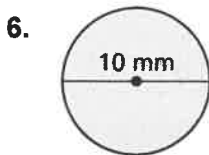
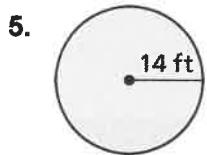
Find the radius of the circle.



Find the diameter of the circle.

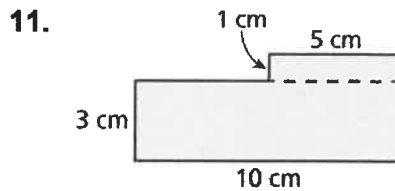
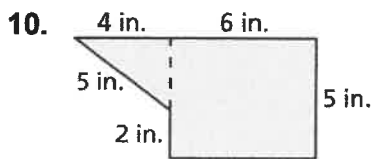
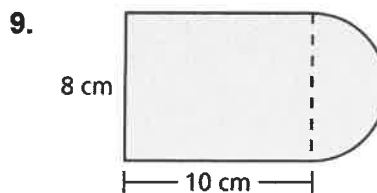
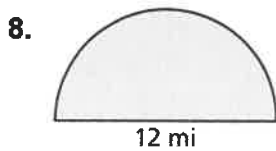


Find the circumference of the circle. Use 3.14 or $\frac{22}{7}$ for π .

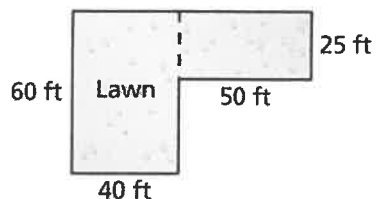


7. Your bedroom is in the shape of a square that is 12 feet long on each side. Will a circular rug with a circumference of 40.82 feet fit into your room? If not, by how many feet is the rug too wide?

Find the perimeter of the figure.



12. You are burying an invisible dog fence around the perimeter of your lawn. How many feet of fencing do you need?

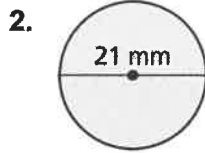
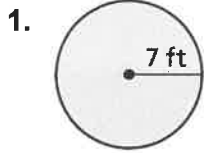


Answers

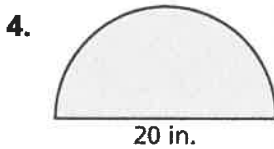
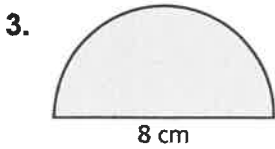
1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

Chapter 8 **Take Home Quiz #2**
For use after Section 8.4

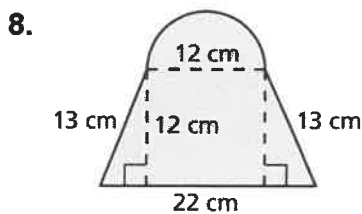
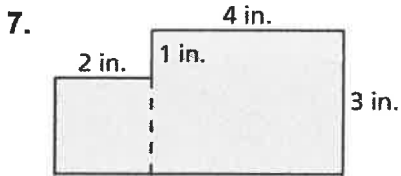
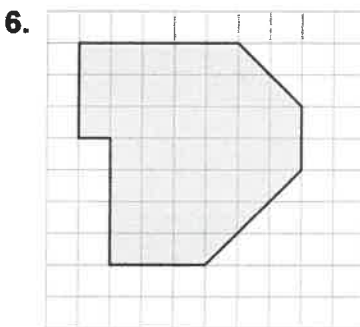
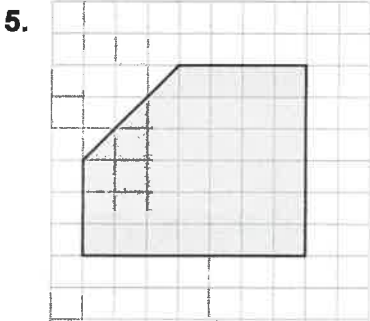
Find the area of the circle. Use 3.14 or $\frac{22}{7}$ for π .



Find the area of the semicircle.



Find the area of the figure.



Answers

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____

9. The circle on a wrestling mat has a diameter of 32 feet. What is the area?

10. A field is shaped like a rectangle with a semicircle at the end. What is the area of the field?

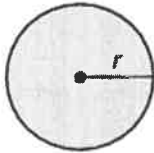


**Chapter
8**

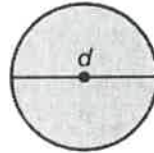
Ms. Abadie's Test Review

Write and solve an equation to find the missing dimension of the circle.

1. Diameter = 13 ft

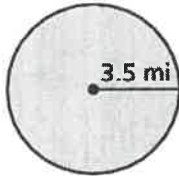


2. Circumference = 44 in.

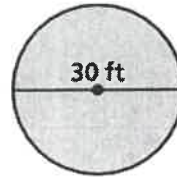


Find the circumference and area of the circle. Use 3.14 or $\frac{22}{7}$ for π .

3.

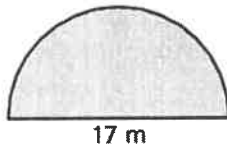


4.

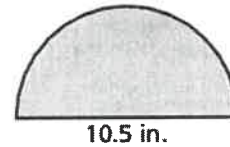


Find the perimeter and area of the semicircle.

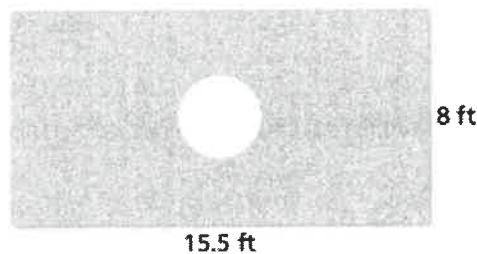
5.



6.



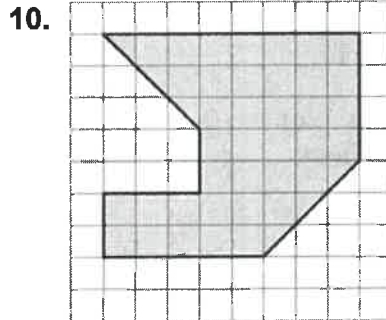
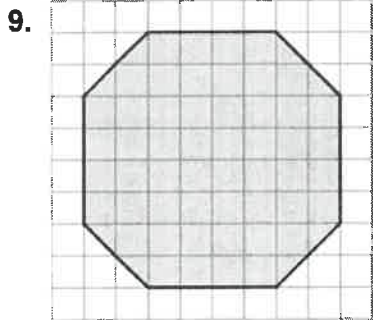
7. You paint one wall in your room and leave a circle for your favorite sports team's logo. The diameter of the circle is 3 feet.



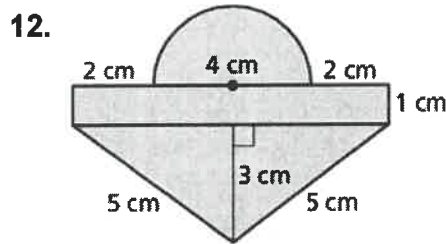
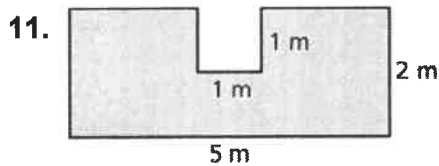
- a. How much tape do you need to outline the circle?
 - b. What is the area of the wall you paint? Round your answer to the nearest hundredth.
8. Explain how you could estimate the diameter of a tree by measuring the distance around the trunk of the tree.

**Chapter
8**

Find the area of the figure.



Find the perimeter and area of the figure.



13. An office manager needs to decide between two tables for the conference room. One is rectangular, 5 feet wide by 10 feet long. The other is a circle with an 8-foot diameter.
- Find the perimeter or circumference of each table.
 - Find the area of each table.
 - Which table can seat more people? Explain.

14. You take a bite out of a square cracker. The shape of the bite is a quarter circle.
- Find the perimeter and area of the cracker remaining.
 - About how many bites can you get from the entire cracker?

