U3
L1

FIRST FIVE

1. **One person per table team grab books**
2. **Pencil + Calculator**

Paper Passer

hand out graded work from the bin

PAGE: 197

Announcements

1. Grades ALMOST done
2. ALL late submissions have been accounted for, the only thing that is not in: RESUBMIT. Those grades will be revised tonight and grade reports will go out tomorrow

Here are two figures.

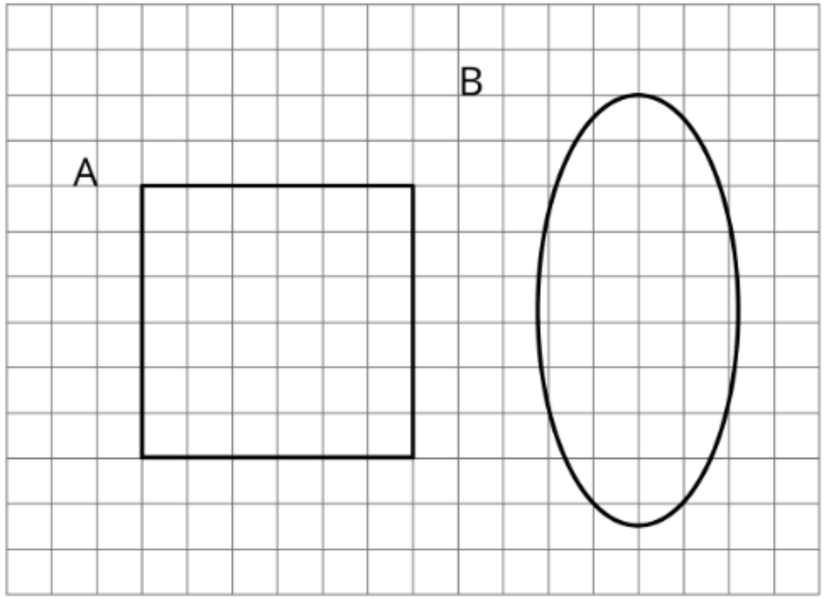


Figure C looks more like Figure A than like Figure B. Sketch what Figure C might look like.

Explain your reasoning.

I will give you some pictures of different objects.

1) How could you sort these pictures into two groups? Be prepared to share your reasoning.

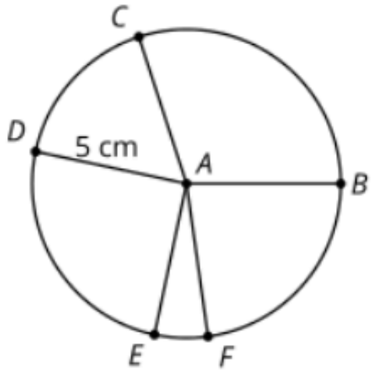
2) Work with your partner to sort the pictures into the categories that your class has agreed on.

4) Put the circular objects in order from smallest to largest.

Characteristics of a Circle
round, no corners
no straight sides
the same distance across in every direction: length, width, height, longest diagonal
closed figure
encloses a two-dimensional region

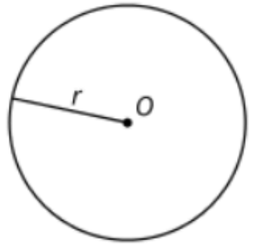
circle

A circle is made out of all the points that are the same distance from a given point.
For example, every point on this circle is 5 cm away from point A, which is the center of the circle.



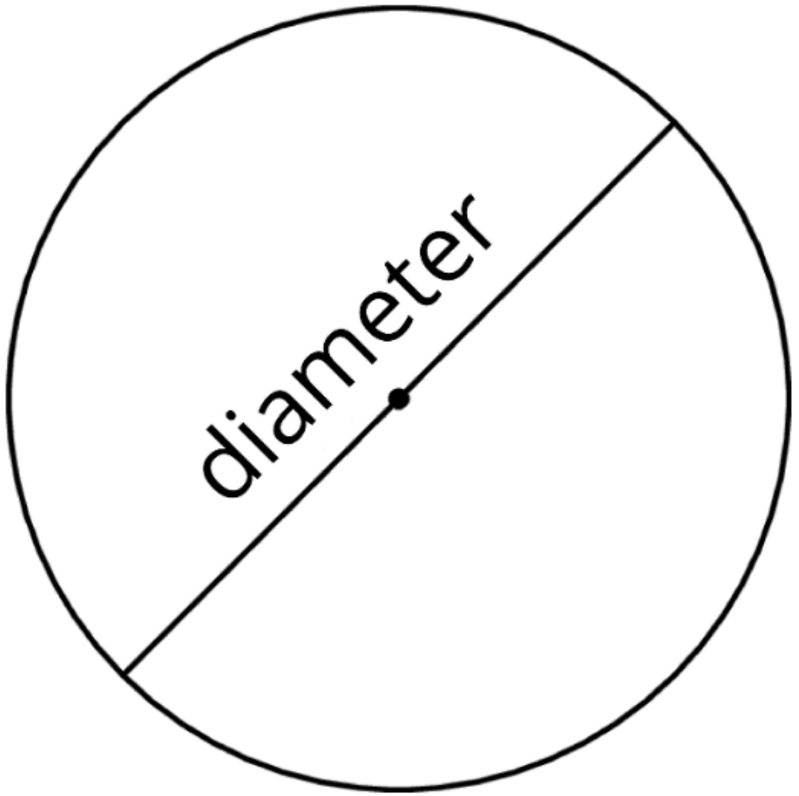
radius

A radius is a line segment that goes from the center to the edge of a circle. A radius can go in any direction. Every radius of the circle is the same length. We also use the word *radius* to mean the length of this segment.
For example, r is the radius of this circle with center O.



diameter

A diameter is a line segment that goes from one edge of a circle to the other and passes through the center. A diameter can go in any direction. Every diameter of the circle is the same length. We also use the word *diameter* to mean the length of this segment.



circumference

The circumference of a circle is the distance around the circle. If you imagine the circle as a piece of string, it is the length of the string. If the circle has radius r then the circumference is $2\pi r$.

The circumference of a circle of radius 3 is $2 \cdot \pi \cdot 3$, which is 6π, or about 18.85.

Draw and label each circle.

1) Circle A, with a **diameter** of 6 cm.
2) Circle B, with a **radius** of 5 cm.

3) Circle C, with a radius that is equal to Circle A's diameter.

4) Circle D, with a diameter that is equal to Circle B's radius.

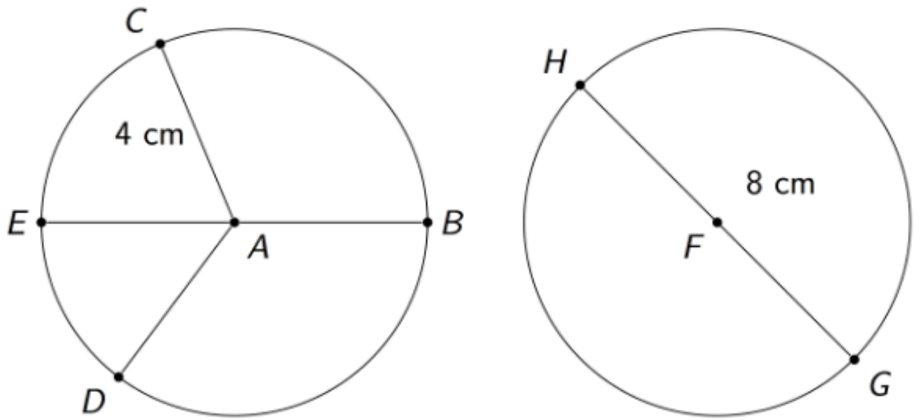
Morrison After Lunch:

1. **Go directly to assigned seat.**
2. **Any outerwear OFF**
3. **Take a cool down and CR complete your headings on BOTH.**

Cool Down

Here are two circles. Their centers are A and F.

1) What is the same about the two circles? What is different?
2) What is the length of segment AD? How do you know?



3. On the first circle, what segment is a diameter? How long is it?

U3
L3

FIRST FIVE

1. **One person per table team grab books**
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Paper Passer

hand out graded work from the bin

PAGE: 204

Announcements

1. **Grades are FULLY updated.**
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3. **YOUR grade is YOUR responsibility.**
4. **Parent Signature DUE Monday 5/20.**

Morrison After Lunch:

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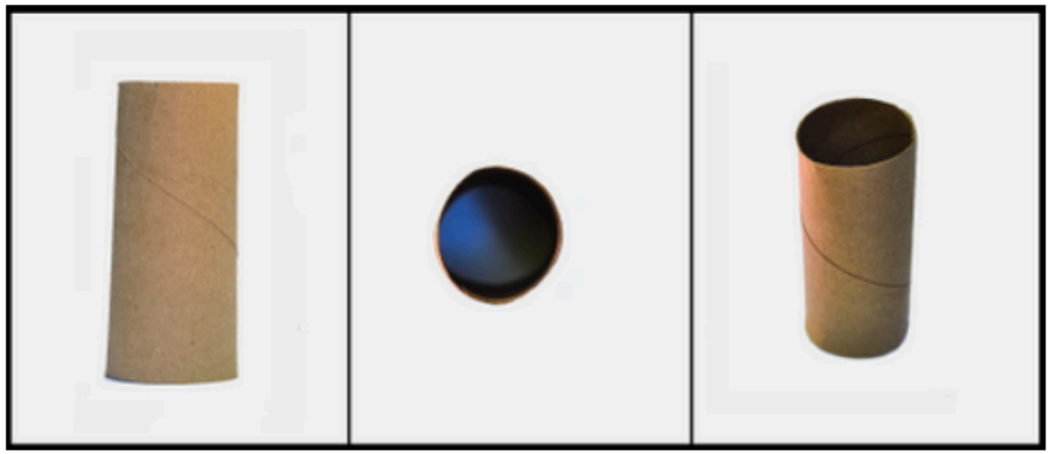
3. **Take a CR complete your heading.**

Clare wonders if the height of the toilet paper tube or the distance around the tube is greater.

What information would she need in order to solve the problem?

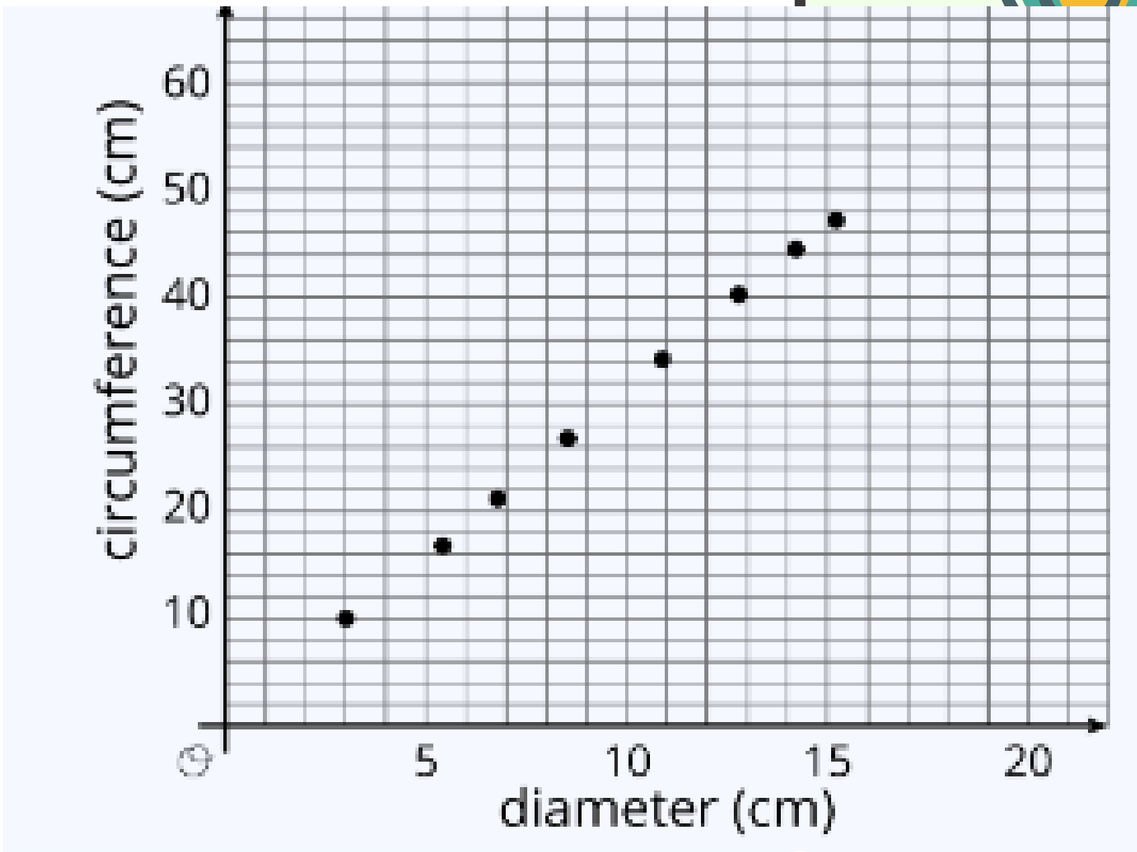
How could she find this out?



2 mins write, 1 min partner share

is this a proportional relationship? How do you know?

Diameter	Circumference
2.1	6.6
4.2	13.2
6.4	20.1



find the COP from the Table.

$$C = \pi d$$

we will use an approximation for pi, 3.14

Use the constant of proportionality estimated in the previous activity to complete the table.

	diameter (cm)	circumference (cm)
circle A	3	
circle B	10	
circle C		24
circle D		18
circle E	1	

Key IDEA:

there is a proportional relationship between diameter and circumference. The circumference will always be approximately 3 times the length of the diameter.

Select **all** the pairs that could be reasonable approximations for the diameter and circumference of a circle. Explain your reasoning.

A. 5 meters and 22 meters.

B. 19 inches and 60 inches.

C. 33 centimeters and 80 centimeters.

COOL DOWN

CR:

$C = \pi d$

directions for question 4

1. **Create a table of values**
2. **Substitute values into the equation, add the solution to table.**
3. **Plot the coordinate points from the table onto the graph.**
4. **Answer: Is the relationship proportional?**

X	Y
0	
1	
2	
3	

U3
L4

FIRST FIVE

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WARM UP

Here are some pictures of circular objects, with measurement tools shown. The measurement tool on each picture reads as follows:

- Wagon wheel: 3 feet
- Plane propeller: 24 inches
- Sliced Orange: 20 centimeters

1) For each picture, which measurement is shown?
2) Based on this information, what measurement(s) could you estimate for each picture?

In the previous activity, we looked at pictures of circular objects. One measurement for each object is listed in the table.

Your teacher will assign an approximation for π for you to use in this activity.

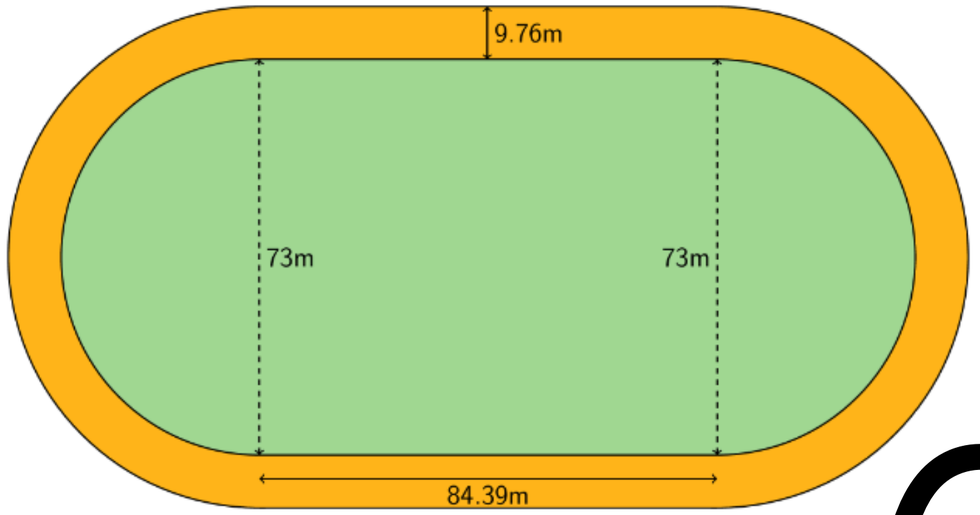
1. Complete the table.

object	radius	diameter	circumference
wagon wheel		3 ft	
airplane propeller	24 in		
orange slice			20 cm

2. A bug was sitting on the tip of the propeller blade when the propeller started to rotate. The bug held on for 5 rotations before flying away. How far did the bug travel before it flew off?

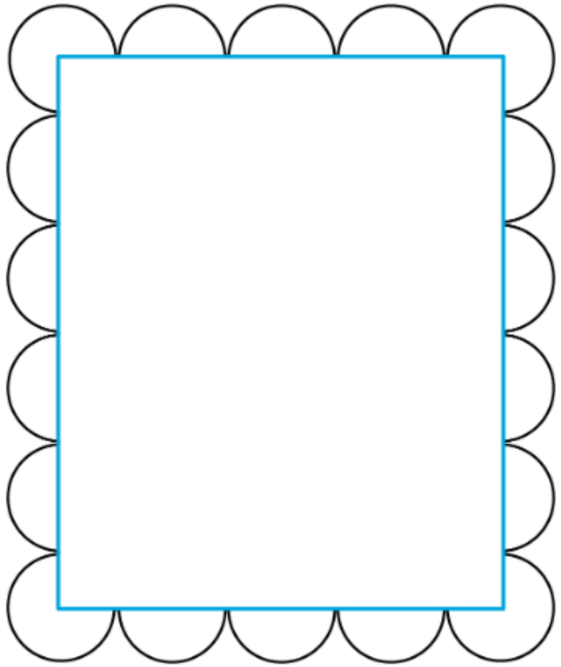
The field inside a running track is made up of a rectangle that is 84.39 m long and 73 m wide, together with a half-circle at each end.

1) What is the distance around the inside of the track? Explain or show your reasoning.



$$C = \pi d$$

Kiran bent some wire around a rectangle to make a picture frame. The rectangle is 8 inches by 10 inches.



1) Find the perimeter of the wire picture frame. Explain or show your reasoning.
2) If the wire picture frame were stretched out to make one complete circle, what would its radius be?

Circle A has a diameter of 9 cm. Circle B has a radius of 5 cm.

1) Which circle has the larger circumference?
2) About how many centimeters larger is it?

1. **Draw the circles described in the question.**
2. **Calculate the circumference**
3. **Compare**
4. **Write an answer statement.**

CR

Radius x 2 = Diameter

Diameter x 3.14 = Circumference

U3
L5

FIRST FIVE

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PAGE: 217

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Warm Up

Han says that you can wrap a 5-foot rope around a wheel with a 2-foot diameter because $\frac{5}{2}$ is less than pi.

Do you agree with Han? Explain your reasoning.

Consider the relationship between diameter and circumference

$$C = \pi d$$

If you agreed with Han, what is your reasoning?

If you disagreed with Han, what length of rope will be enough to go around the wheel?

5.3 Activity: Rotations and Distance

A car wheel has a diameter of 20.8 inches.

a) About how far does the car wheel travel in 1 rotation? 5 rotations? 30 rotations?

5.3 Activity: Rotations and Distance

b) Write an equation relating the distance the car travels in inches, c, to the number of wheel rotations, x

.

5.3 Activity: Rotations and Distance

c) About how many rotations does the car wheel make when the car travels 1 mile? Explain or show your reasoning.

1 Mile = 5,280 Feet

1 Foot = 12 Inches

5.3 Activity: Rotations and Distance

2. A bike wheel has a radius of 13 inches.

a. About how far does the bike wheel travel in 1 rotation? 5 rotations? 30 rotations?

b. Write an equation relating the distance the bike travels in inches, b, to the number of wheel rotations, x.

c. About how many rotations does the bike wheel make when the bike travels 1 mile? Explain or show your reasoning.

COOL DOWN

The wheels on Noah's bike have a circumference of about 5 feet.

1) How far does the bike travel as the wheel makes 15 complete rotations?
2) How many times do the wheels rotate if Noah rides 40 feet?

U3
L7

FIRST FIVE

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Paper Passer

hand out graded work from the bin

PAGE: 229

Announcements

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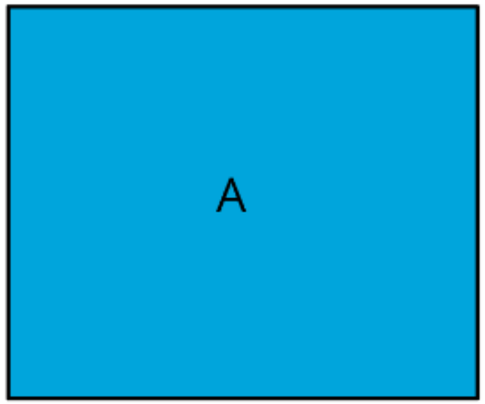
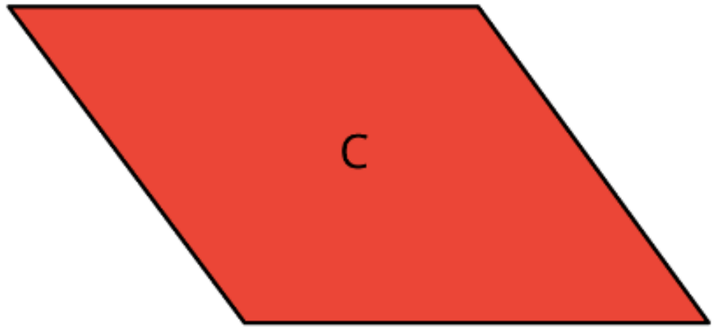
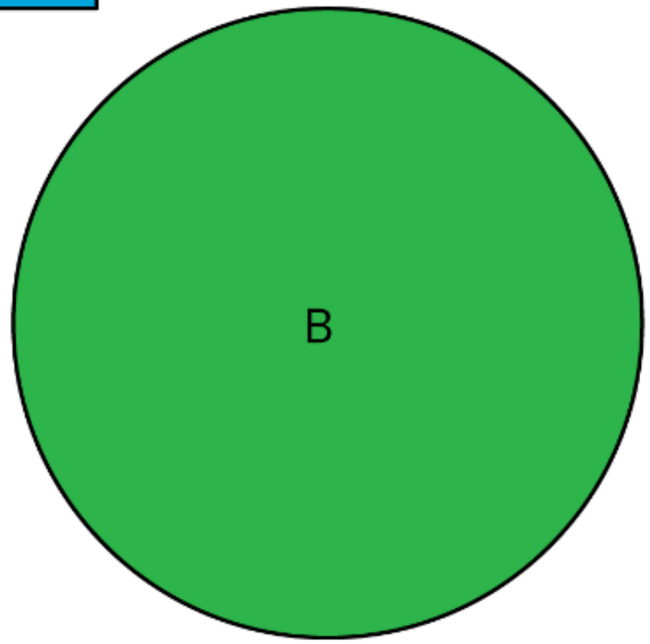






1. **Sketch the figures in your workbook**
2. **Decide which figure has the largest area.**
3. **Be prepared to explain your reasoning.**

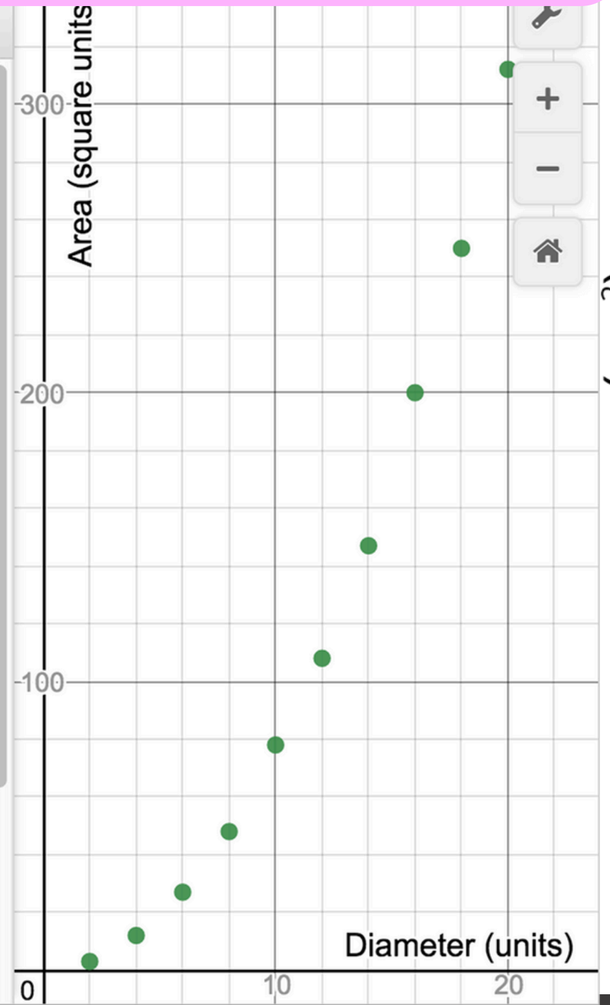
7.2 Estimating Areas of Circles

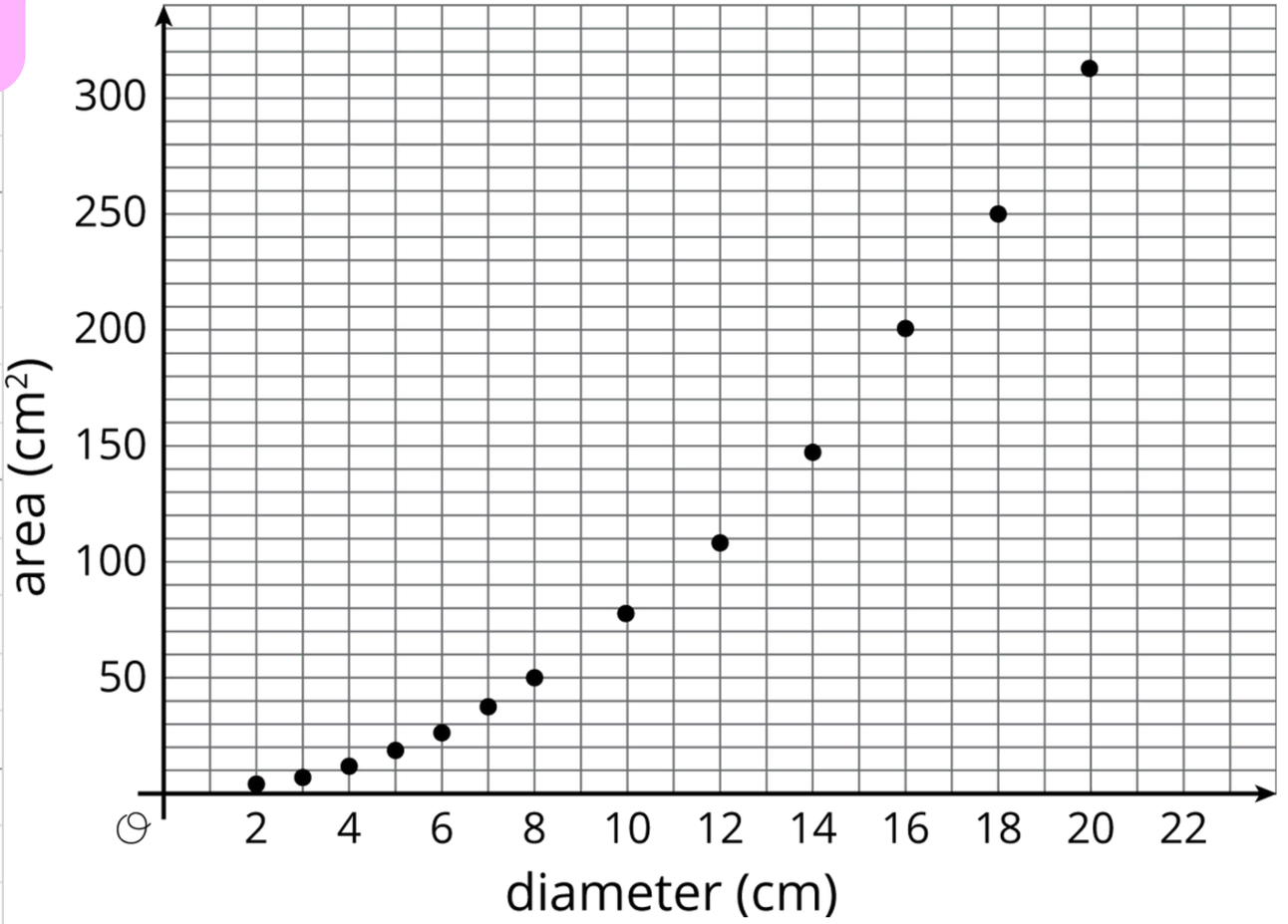
1) For each circle, use the squares on the graph paper to measure the diameter and estimate the **area of the circle**. Record your measurements in the table.

diameter (cm)	estimated area (cm^2)

THE RELATIONSHIP WITH AREA AND RADIUS IS NOT PROPORTIONAL

D	A
2	3
4	12
6	27
8	48
10	78
12	108
14	147
16	200
18	250
20	312
-----	-----

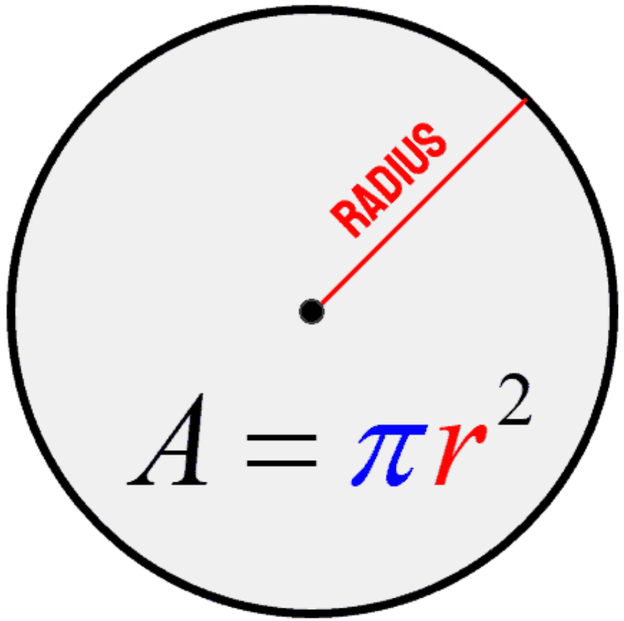




area of a circle

If the radius of a circle is r units, then the area of the circle is πr^2 square units.

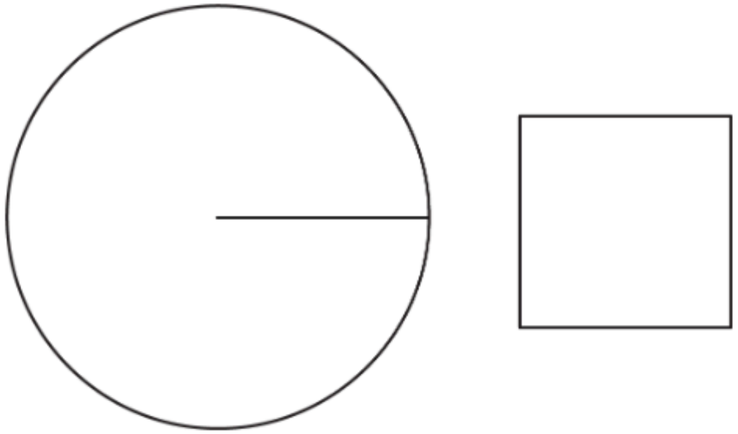
For example, a circle has radius 3 inches. Its area is $\pi 3^2$ square inches, or 9π square inches, which is approximately 28.3 square inches.



$\pi \approx 3.1416$

7.3 Covering a Circle

Here is a square whose side length is the same as the radius of the circle.



How many of the squares do you think it would take to cover the circle exactly?

- Circle A has a diameter of approximately 20 inches and an area of 300 in^2.
- Circle B has a diameter of approximately 60 inches.

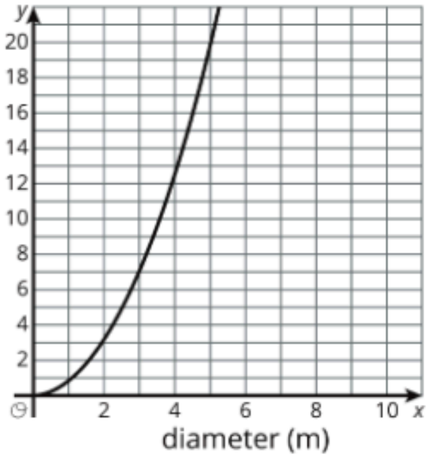
Which of these could be the area of Circle B? Explain your reasoning.

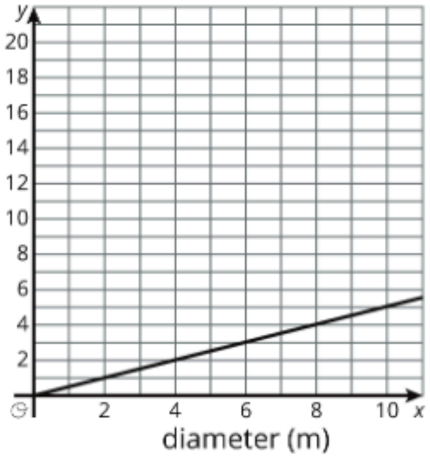
1) About 100 in^2
2) About 300 in^2
3) About 900 in^2
4) About 2,700 in^2

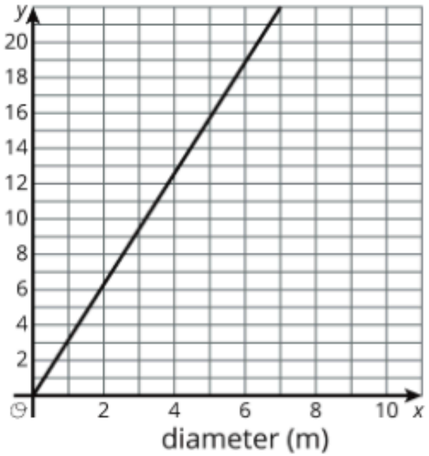
COOL DOWN

1. The x-axis of each graph has the diameter of a circle in meters. Label the y-axis on each graph with the appropriate measurement of a circle:

   radius (m), circumference (m), or area (m^2).







Morrison After Lunch:

1. **Go directly to assigned seat.**
2. **Any outerwear OFF**
3. **Take a CR and COOL DOWN complete your heading.**
4. **Chromebook in SEAT BASKET**

2. Circle A has area 500 in^2. The diameter of circle B is three times the diameter of circle A. Estimate the area of circle B.

U3
L8

FIRST FIVE

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Paper Passer

hand out graded work from the bin

PAGE: 234

Announcements

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WarmUp

A circular field is set into a square with an 800 m side length. Estimate the field's area.

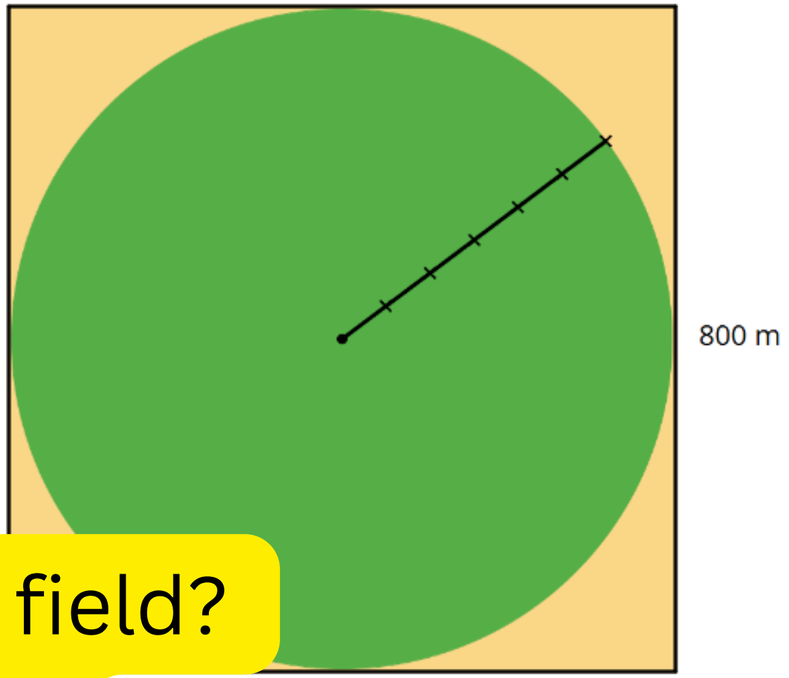
A. About 5,000 m^2

B. About 50,000 m^2

C. About 500,000 m^2

D. About 5,000,000 m^2

E. About 50,000,000 m^2



what is the area of the square field?
what is the radius of the circle?
what is the area of the circular field?

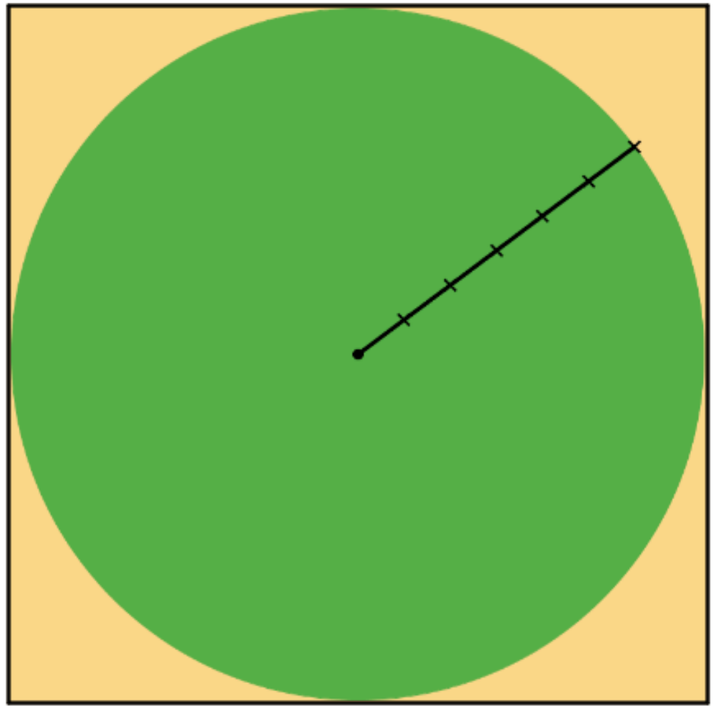
WarmUp

Let's have a few students share their strategies and discuss their answers to the questions.

What is the area of the square in square meters?

Is the circle's area greater than or less than the square's area?

Using the picture, what is the best estimate?



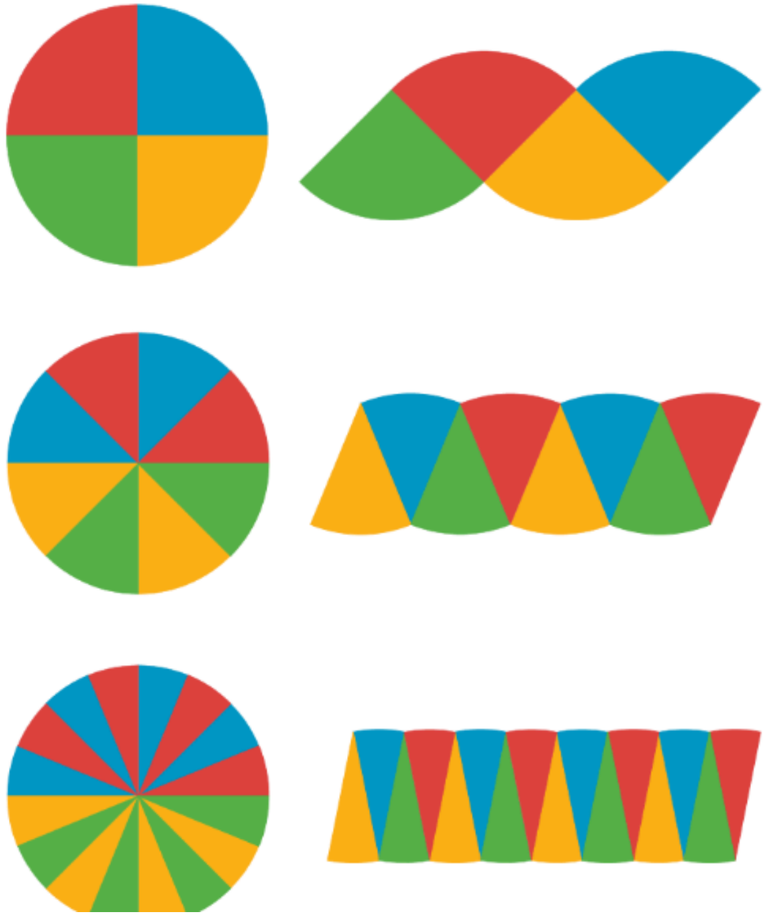
DEMONSTRATION

4 Sectors

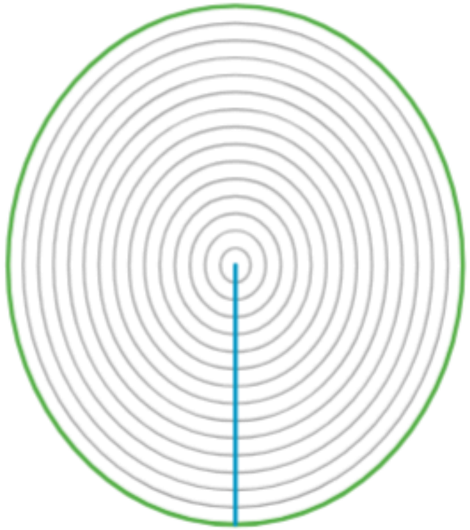
RELATING AREA TO CIRCUMFERENCE

If we could continue cutting the wedges in half, how would that affect the new shape?

Describe comparisons between the measurements in the circle and measurements in the new shape.



Demonstration #2

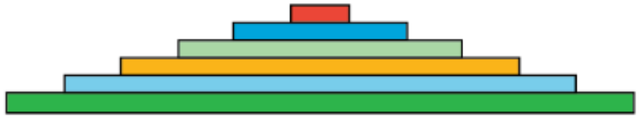


Activity 8.3

de of rings that can bend, but not stretch.

A circle is made of rings.

The rings are unrolled.



The circle has been made into a new shape.

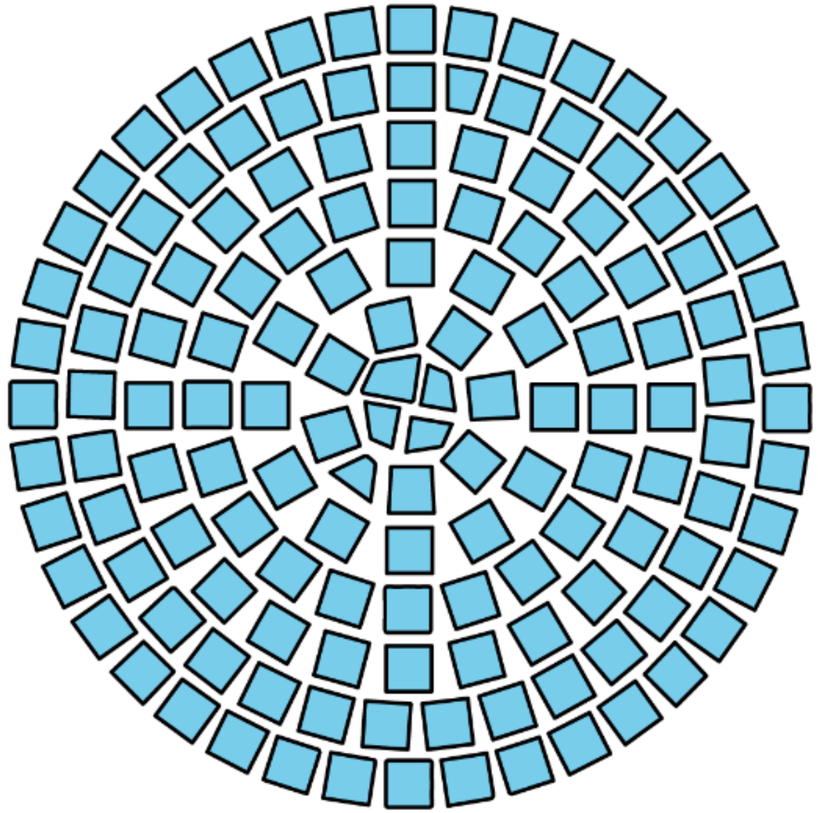
1) What polygon does the new shape resemble?
2) How does the area of the polygon compare to the area of the circle?
3) How can you find the area of the polygon?
4) Show, in detailed steps, how you could find the polygon's area in terms of the circle's measurements. Show your thinking. Organize it so it can be followed by others.

Activity 8.4

Elena wants to tile the top of a circular table.

The diameter of the table top is 28 inches.

What is its area?

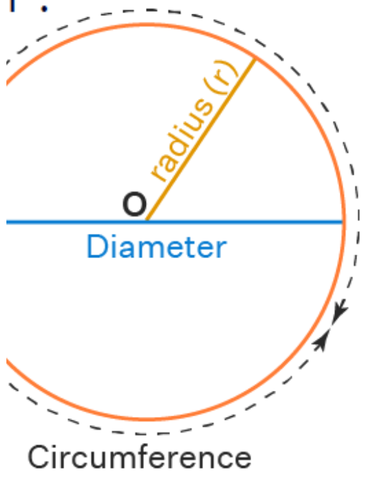


Cool Down

A circle's circumference is approximately 44 cm.

Complete each statement using one of these values: 7, 11, 14, 22, 88, 138, 154, 196, 380, 616.

1) The circle's diameter is approximately _____ cm.
2) The circle's radius is approximately _____ cm.
3) The circle's area is approximately _____ cm^2.



$$r = \frac{\text{Diameter}}{2}$$

$$r = \frac{\text{Circumference}}{2\pi}$$

$$r = \sqrt{\frac{\text{Area}}{\pi}}$$

U3
L9

FIRST FIVE

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PAGE: 240

Announcements

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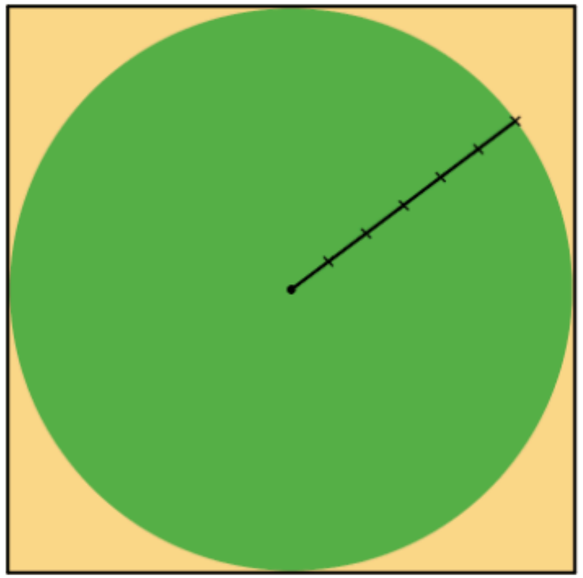
Warm Up

$A = \pi r^2$

The area of this field is about 500,000 m^2.

What is the field's area to the nearest square meter?

Assume that the side lengths of the square are exactly 800 m.



A. 502,400 m^2

B. 502,640 m^2

C. 502,655 m^2

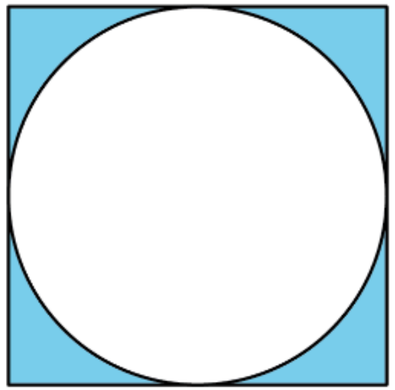
D. 502,656 m^2

E. 502,857 m^2

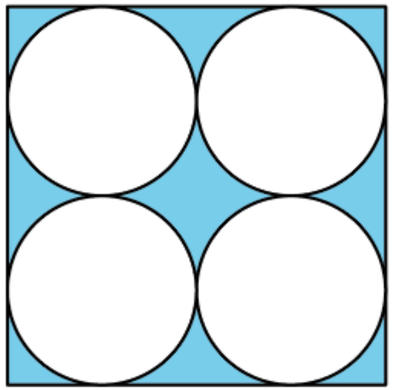
Make a prediction.

Which figure will have the greatest shaded area?

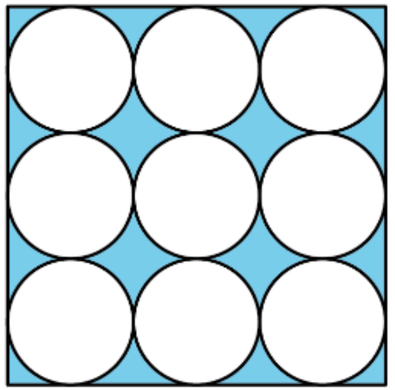
A



B



C



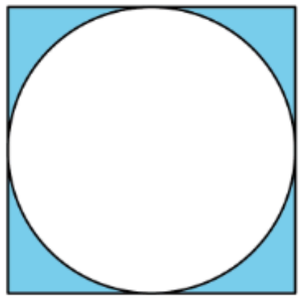
1) Each square has a side length of 12 units.

Compare the areas of the shaded regions in the 3 figures.

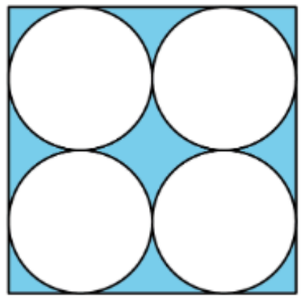
Which figure has the largest shaded region?

Explain or show your reasoning.

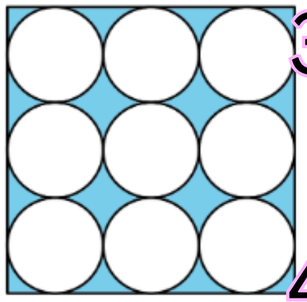
A



B



C



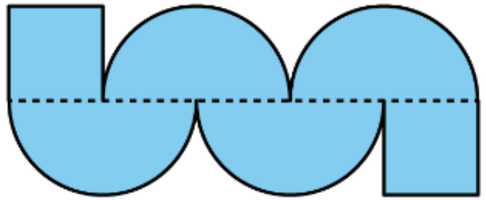
1. Find the area of the whole square.
2. Use the measurements given to determine the radius of each circle. *CHECKPOINT*
3. Solve for the area of each circle.
4. Subtract the circes from the entire square area

2. Each square in Figures D and E has a side length of 1 unit. Compare the area of the two figures.

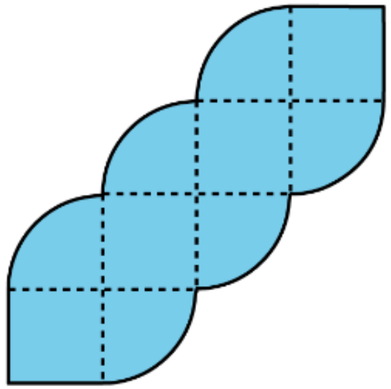
Which figure has more area? How much more?

Explain or show your reasoning.

D



E



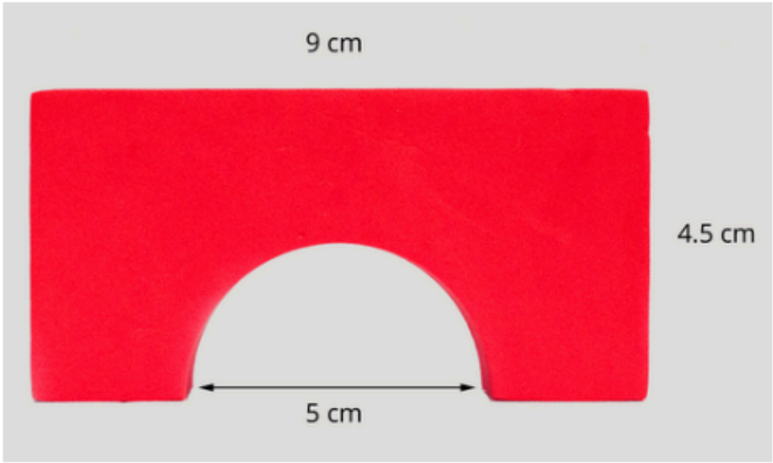
1. What is each COMPLEX shape made of?
2. What is the area of a square?
3. What would the area of a FULL circle?
4. How can I show my work to make sure I have included each shape?

Cool Down

Here is a picture that shows one side of a child's wooden block with a semicircle cut out at the bottom.

Find the area of the side.

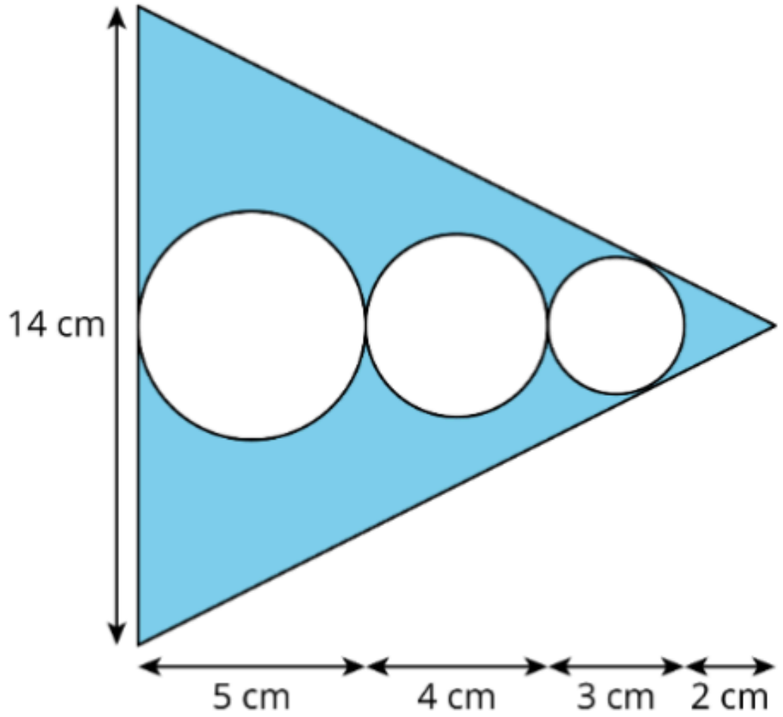
Explain or show your reasoning



1. Find the area of the whole rectangle.
2. Solve for the area of circle (is it a full circle?)
3. Subtract
4. Answer Statement

CR

2. Find the area of the shaded region. Express your answer in terms of π.



U3
L10

FIRST FIVE

1. **One person per table team grab books**
2. **Pencil + Calculator**

Paper Passer

hand out graded work from the bin

PAGE: 247

Announcements

1. All revisions and submitted work has been entered into the grade book!!!! YAYYYY
-
2. Grade Report Distributed TODAY, 5/23.
3. PRN is tuesday and wednesday next week
4. Gradebook closes OFFICIALLY on 6/14

End of Year Plans

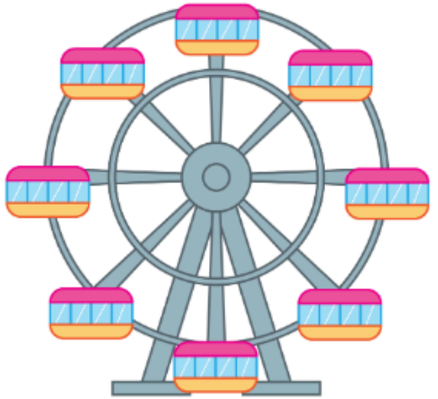
Monday	5/20	Unit 3	Lesson 7	Unit 3 Canva Slides	provided		☑
Tuesday	5/21	Unit 3	Lesson 8				☐
Wednesday	5/22	Unit 3	Lesson 9				☐
Thursday	5/23	Unit 3	Lesson 10				☐
Friday	5/24	Asynchronous	iReady	Priority Skills: Geometry	*No Additional Materials Required*		☐
Monday	5/27	MEMORIAL DAY		NO SCHOOL			☐
Tuesday	5/28	VIRTUAL PRN		NO SCHOOL			☐
Wednesday	5/29	Unit 3	Review	1/2 DAY PRN : Classwork			☐
Thursday	5/30	Unit 3 Assessment		Assessment Link/Key			☐
Friday	5/31	Asynchronous	iReady	Priority Skills: Equations and Inequalties			☐
Monday	6/3	Unit 8	Adaptation	Lesson 11: Variability and MAD	Cool Down	Practice	☐
Tuesday	6/4	Unit 8	Adaptation	Lesson 12: Using Mean and MAD to Compare	Cool Down	Practice	☐
Wednesday	6/5	Unit 8	Adaptation	Lesson 15: Quartiles and Interquartile Range	Cool Down	Practice	☐
Thursday	6/6	Unit 8	Adaptation	Lesson 16: Box Plots	Cool Down	Practice	☐
Friday	6/7	Asynchronous	IReady	Priority Skills:	*No Additional Materials Required*		☐
Monday	6/10	Chromebook	Desmos	Wheel			☐
Tuesday	6/11	Chromebook	Desmos	Wheel			☐
Wednesday	6/12	Field Trip: Adventure Land					☐
Thursday	6/13	Chromebook	Desmos	Wheel			☐
Friday	6/14	CHMS Field Day					☐

About how many cheese puffs can fit on the plate in a single layer? Be prepared to explain your reasoning.

Your teacher will give you cards with questions about circles.

1) Sort the cards into two groups based on whether you would use the circumference or the area of the circle to answer the question.

Pause here so I can review your work.



2. Choose a card to examine more closely. What additional information would you need in order to answer the question on your card?

3. Estimate measurements for the circle on your card.

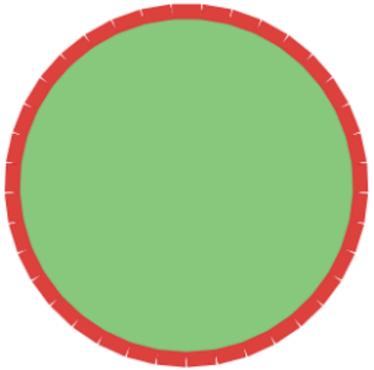
4. Use your estimates to calculate the answer to the question.

1. How many feet are traveled by a person riding once around the merry-go-round?

- Clare says, “The radius of the merry-go-round is about 4 feet, so the distance around the edge is about 8π feet.”
- Andre says, “The diameter of the merry-go-round is about 4 feet, so the distance around the edge is about 4π feet.”

2. How much room is there to spread frosting on the cookie?

- Clare says “The radius of the cookie is about 3 centimeters, so the space for frosting is about 6π cm^2.”
- Andre says “The diameter of the cookie is about 3 inches, so the space for frosting is about 2.25π in^2.”



A circular lawn has a row of bricks around the edge. The diameter of the lawn is about 40 feet.

1) Which is the best estimate for the amount of grass in the lawn?
2) Which is the best estimate for the total length of the bricks?

A. 125 feet

B. 125 square feet

C. 1,250 feet

D. 1,250 square feet

Unit 3 Assessment

1. **Write your name on Assessment paper**
2. **Materials: Chromebook, Calc, Pencil, Open Notes Guide, and Assessment**
3. **LOG IN to ilc classroom, select U3 Assessment**
4. **SHOW all work and thinking on page and ensure all parts of Qs are answered**
5. **Done? iReady Lessons (Circles)**