JANUARY
Makugihon

FEBRUARY
Mahigugmaon

MARCH
Matinabangon

APRIL
Matinahuron

MAY
Mahapsay og Malimpyo

JUNE
Maabtik og Masunod sa Ihsaktong Oras

JULY
Maantigo og Maabilidad

AUGUST
Maginhunahunaon para sa Uban

SEPTEMBER
Madaginoton

OCTOBER
Matinud-anon

NOVEMBER
Masaligan

DECEMBER
Maalamnon

Republic of the Philippines
Department of Education
Regional Office IX, Zamboanga Peninsula

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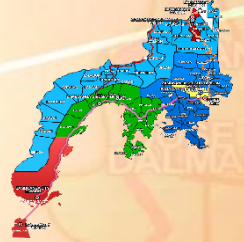
Zest for Progress
Zeal of Partnership

Mathematics

Quarter 3 - Module 8
Circumference of a Circle

Name of Learner: _____

Grade & Section: _____

Name of School: _____

What I Need to Know

This module contains one lesson:

Lesson 8- Knowing More on Circle; Its Circumference

In this module, you will be able to:
1. Visualize circumference of circle
2. Measure circumference of circle using appropriate tools
3. Finds the circumference of a circle
4. Solve routine and non-routine problems involving circumferences of a circle

What I Know

Directions: Encircle the letter of your correct answer.

1. The distance around the circle refers to _____.
   A. Area
   B. circumference
   C. perimeter
   D. volume

2. What is the formula on finding the circumference of a circle?
   A. $A = \pi r$
   B. $A = \pi r^2$
   C. $A = \pi d$
   D. $2\pi r^2$

3. Which of the measuring tools below is appropriate to use when measuring the circumference of a wall clock?
   A. Meter stick
   B. tape measure
   C. ruler
   D. laser measure

4. Which objects below has the greatest circumference?
   A. circular plate   C. hula hoop
   B. circular pool   D. clock

5. Pam served her apple pie on a 13 inches diameter dish. She wanted to tie a ribbon around the dish to make it a little more festive. How long does the ribbon need to be in order to fit around the dish?
   A. 40.81 in
   B. 40.82 in
   C. 132.665 in
   D. 133.665 in

6. What is the circumference circular cloth that has 6 m diameter.
   A. 18.84 m
   B. 19.85 m
   C. 28.26 m
   D. 29.26 m

7. Find the circumference of a hula hoop if its radius is 20 in.
   A. 125.6 in
   B. 125.8 in
   C. 126.6 in
   D. 126.8 in

8. Find the circumference of a wheel if its diameter is 50 cm.
   A. 154 cm
   B. 155 cm
   C. 156 cm
   D. 157 cm

9. Which of the following problems is **NOT** asking for the circumference of a circle?
   A. Chris ate 1/8 of a pizza pie with 14 in diameter. How big is the remaining portion of the pie?
   B. Jean served her apple pie on a 13 in diameter dish. She wanted to put a ribbon around the dish to make it a little more festive. How long does the ribbon need to be in order to fit around the dish?
   C. Jean has a 900 cm radius circular lot. She wanted to fill the surface of it with Bermuda grass. How much Bermuda grass will she need to fill the lot?
   D. If the radius of the circular table is 10 in, how much cloth would be needed to cover the table?

10. Miya has a circular garden. She wants to put a fence on it to protect her plants from the astray animals. How long will be the fence needed to accommodate the entire garden if it's diameter is 30 meters?
   A. 94.2 m
   B. 94.4 m
   C. 95.2 m
   D. 96.2 m

What's In

Activity 1

Directions: Convert the time for each item below from 12-hour clock to 24-hour clock and vice versa.

1. 7:24 a.m. = _____

2. 15:45 H   = _____

3. 6:57 a.m. = _____

4. 23:00 H   = _____

5. 7:51 a.m. = _____

What's New

THE BASIC PARTS OF A CIRCLE

A circle is the set of points in a plane that are equidistant from a given point, called center. Its basic parts are center, radius and diameter.

a. **Center** - is the point equidistant from the points on the edge.
b. **Radius (r)** – is a line from any point on the circle towards its center or vice versa. It is half of the length of diameter ($r = d \div 2$). Radii is its plural term.
c. **Diameter (d)** - is the length of the line through the center and touching two points on the circle. It is twice the length of radius ($d = 2 \times r$).

This means, the bigger the radius of a circle, the bigger its diameter. Thus the bigger the circle.

Activity 2

Directions: Try to fill the boxes inside the circle below with its appropriate parts.

1.

2.

3.

4.
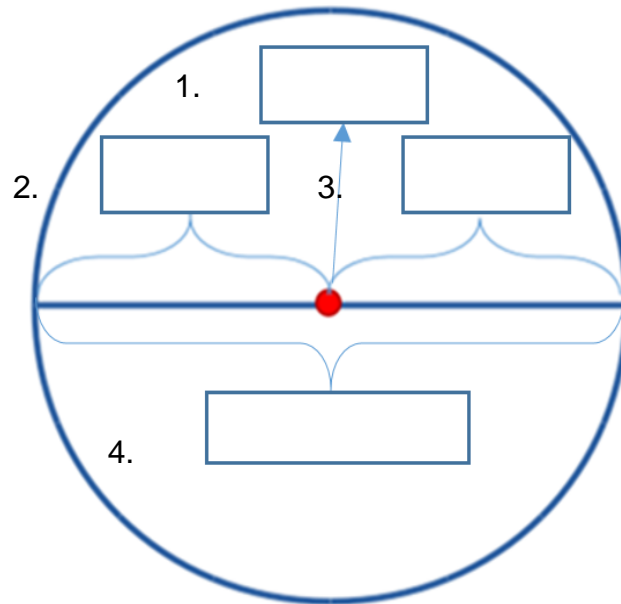
What Is It

Circumference refers to the distance around the circle. It is the product when we multiply the pie of the circle by 2 and its radius. It is also the product of the diameter and the pie of a circle. It reveals like a perimeter of a polygon. Like diameter and radius cm, m, and in etc. are its common units of measurement.

Ruler, meter stick, tape measure are the common tools for measuring the circumference of a circle.

Consider the formulas below:
A. $C = 2\pi r$
B. $C = \pi d$

Wherein:
1. C is the circumference of a circle
2. π is the pie of the circle with a constant value of 3.14
3. d is the diameter of the circle
4. 2 for formula A is a constant value

Examples:
1. If r equals 5m, what is the value of C? Consider the formula A (C = 2πr).
   Solution: C = 2πr,
              C = 2 (3.13) (5m),
              C = 31.4m
2. If d equals 12m, what is the value of C?
   Solution: C = πd,
              C = (3.13) (12m)
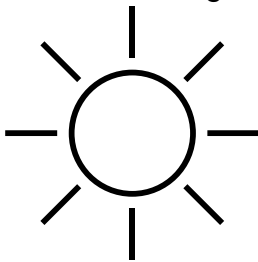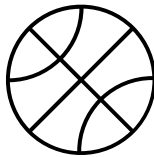   C = 37.56m

What's More

Activity 3: Figure it out

  I. Directions: Read each item carefully. Visualize the circumference of the circle in every item below according to size described. Encircle the letter of your answer.

1. Which of the following objects is the largest circle?

A.   B.   C.   D.

2. Which of the following tubs has the largest circumference?

A. r = 34 cm   B. r = 29 cm   C. 35 cm   D. 19 cm

3. Which of the following pizzas is the largest?

A. d = 12 m   B. d = 15 m   C. 23 cm   D. 20 m

II. Directions: Choose the appropriate tool to measure the circumference of a circle. Encircle the letter of your answer.

4.   A. Ruler   B. meter stick   C. Tape measure   D. laser measure

5. **P10**   A. Ruler   B. meter stick   C. Tape measure   D. laser measure

Activity 4. Think and Solve

I. Directions: Find the circumference of the following given measurement below. Use 3.14 for the value of π.

1. r = 34 cm   2. d = 12 m   3. 16 in

C: _____   C: _____   C: _____

II. Directions: Solve for the answers of the problems below.

3. Bruno is running in a plaza having a radius of 75 meters. After having a complete round, he wants to check if how many meters he ran. Please help Bruno.

C: _____

4. The circular base of a statue in the middle of the fountain has a radius of 1 meter. The fountain's diameter is 12 meters, excluding the diameter of the statue. If the management would like to put a wire around the fountain, how long will it be?

C: _____

Activity 5 Time to compare
Directions: Solve for the circumference in column A, then compare it to the value in the column B.

A	<,>,=	B
Ex. d = 3 m, C= **9.42 m**	<	10 m
1. r = 5 cm, C = _____		30 cm
2. d = 6 in, C = _____		20 in
3. r = 10 m, C = _____		50 m
4. d = 12 cm, C = _____		100 cm
5. r = 2 in, C = _____		10 in

What I Have Learned

Activity 1. Complete Me
Directions: Complete the table below.

No.	r	d	C
Ex.	5 m	10 m	31.4 m
1	_____	20 m	_____
2	13 cm	_____	_____
3	7 in	14 in	_____
4	8 m	_____	_____
5	_____	8 cm	_____

What I Can Do

Activity 1. I am Genius

Directions: Analyze and solve the problems below. (8 points)

1. You have circular pond surrounded by a fence. The radius of the pond is 3.2 m. How many meters of fence you need to enclose the pond? (Routine problem:4 points)

Understand	Plan	Solve	Check

2. Belle has 2 circular tables, big and small. The small table is having a diameter of 3 m, while the big one has a radius of 4 m. If she wants to put a decorative ribbon around each of the tables, how long will it be? (Non-routine problem: 4 points)

Understand	Plan	Solve	Check

Assessment

Directions: Read and answer the following items below. Encircle the letter of your answer.

1. Which among the measuring tools below is appropriate to use when measuring the circumference of a round table?
   A. Meter stick
   B. tape measure
   C. ruler
   D. laser measure

2. Which of the following events has the greatest circumference of a ball?
   A. Baseball
   B. Basketball
   C. Football
   D. Volleyball

3. The distance around the circle refers to _____.
   A. area
   B. circumference
   C. diameter
   D. radius

4. The formula on finding the area of a circle is _____.
   A. $C = 2\pi r$
   B. $C = 2\pi d$
   C. $C = \pi r^2$
   D. $C = 2\pi r^2$

5. What is the circumference of Pam's apple pie with a 12 inches diameter.
   A. 30.81 in
   B. 37.68 in
   C. 38.78 in
   D. 39.68 in

6. May has a bass drum with 0.8 m in diameter. How many meters does is needed if she wanted to put tassel around it?
   A. 2.512 m
   B. 2.548 m
   C. 4.608 m
   D. 5.024 m

7. Find the circumference of the top base of a round stool chair if its radius is 7.5 in.
   A. 25.6 in
   B. 47.1 in
   C. 57.6 in
   D. 108.6 in

8. Find the circumference of a wheel if its radius is 30 cm.
   A. 185.4 cm   C. 187.6 cm
   B. 185.5 cm   D. 188.4 cm

9. Which of the following problems is asking for the circumference of a circle?
   A. Jean served her apple pie on a 13 in diameter dish. She wanted to tie a ribbon around the dish to make it a little more festive. How long does the ribbon need to be in order to fit around the dish?
   B. Chris ate 1/8 of a pizza pie with 14 in diameter. How big is the remaining portion of the pie?
   C. Jean has a 900 cm radius circular lot. She wanted to fill the surface of it with Bermuda grass. How much Bermuda grass will she need to fill the lot?
   D. If the radius of the circular table is 10 in, how much cloth would be needed to cover the table?

10. Cable is sold on a cylindrical drum with a diameter of 30 cm. The cable is wrapped around the drum 20 times. How many drums you need to buy to have 75 meters of cable.
   A. 3
   B. 4
   C. 6
   D. 8

Additional Activities

Activity 1. Color is life

Directions: Solve for the circumference and the area of the circles below. Color the circles with the following conditions:

BLUE – if your answer ranges from 0 – 25
GREEN – if your answer ranges from 26 – 50
YELLOW – if your answer ranges from 51 – 75
RED – if your answer ranges from 76 – 100

20 cm

1. C =

15 ft.

2. C =

2 cm.

3. C =

4 in

4. C=

2 m

5. C=

References

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