

MATHEMATICS 6

Third Quarter
DLA No. 1

Type of Activity: Concept Development

Activity Title	:	Percent Changing Percent to Fraction to Decimal and vice versa
Learning Objective	:	Identify percent. Change percent to fraction to decimal and vice versa. Appreciate the application of percent to real-life situations. Acknowledge that talents and competencies are gifts from God.
References	:	Simplifying Mathematical Challenges 6 Math Connections 6
Author	:	Antonina Cruz and Aurea Dela Paz Felipe De Guzman and Amelia De Vera

Concept Notes:

- Percent means per hundreds or hundredths.
- It is expressed as a:
 - fraction with a denominator of 100
 - decimal in hundredths
- We change percent to:
 - decimal, by moving the decimal point two places to the left
Ex. $90\% = 0.90$ or 0.9
 - fraction, by dropping the % sign and affixing a denominator of 100 then reducing to lowest term
Ex. $85\% = 85/100$ or $17/20$
- We change decimal to:
 - percent, by moving the decimal point two place to the right and annex the % sign
Ex. $0.3 = 30\%$
 - fraction, by writing the given number as the numerator and the place value as the denominator, then reducing to lowest term
Ex. $.07 = 7/10$
- We change fraction to:
 - decimal, by dividing the numerator by the denominator
Ex. $2/5 = 2 \div 5 = 0.4$
 - percent, by changing it to decimal first then to percent
Ex. $8/25 = 8 \div 25 = 0.32 = 32\%$

MATHEMATICS 6

Third Quarter
DLA No. 2

Type of Activity: Concept Development

Activity Title	:	Elements of a Percent Finding the Percentage
Learning Objective	:	Identify the elements of percent. Compute for the percentage. Recognize the application of the elements of a percent in real life. Acknowledge that talents and competencies are gifts from God.
References	:	Mathematics in a Challenging World 6 Math Connections 6
Author	:	Luzviminda Funa and Lourdes Dela Cruz Felipe De Guzman and Amelia De Vera

Concept Notes:

- There are three elements of a percent.
 - Percentage is a part of the base. It is usually found before or after the word "is".
Ex. 25% of 64 **is 16** or **16 is** 25% of 64
* 16 is the percentage
 - Base represents the whole, the total or the entire amount. It is usually followed by the word "of".
Ex. 8 is 10% **of 80** or 10% **of 80** is 8
 - Rate indicates the ratio of a number to 100. It is always followed by the % symbol.
Ex. 150 is **60%** of 250 or **60%** of 250 is 150

2. To find the percentage, we can use the following methods.

Using the Ratio and Proportion

$$\frac{\text{Percentage (P)}}{\text{Base (B)}} = \frac{\text{Rate (R)}}{100}$$

Using the Triangle Method



- Ex. What is 75% of 16?
* We will find the percentage.

$$\frac{\text{Percentage (P)}}{\text{Base (B)}} = \frac{\text{Rate (R)}}{100}$$



$$\frac{\text{Percentage (P)}}{16} = \frac{75\%}{100}$$

$$P = 16 \times 75$$

$$P = 1,200 \div 100$$

$$P = 12$$

$$P = B \times R$$

$$P = 16 \times 75\%$$

$$P = 16 \times 0.75$$

$$P = 12$$

MATHEMATICS 6

Third Quarter
DLA No. 3

Type of Activity: Concept Development

Activity Title	:	Elements of a Percent Finding the Base
Learning Objective	:	Identify the elements of percent. Compute for the base. Solve problems involving finding the base. Gives back to God what He has given.
References	:	Mathematics in a Challenging World 6 Math Connections 6
Author	:	Luzviminda Funa and Lourdes Dela Cruz Felipe De Guzman and Amelia De Vera

Concept Notes:

1. To find the base, we can use the following methods.

Using the Ratio and Proportion

$$\frac{\text{Percentage (P)}}{\text{Base (B)}} = \frac{\text{Rate (R)}}{100}$$

Ex. 8 is 10% of what number?
* We will find the base.

$$\frac{\text{Percentage (P)}}{\text{Base (B)}} = \frac{\text{Rate (R)}}{100}$$

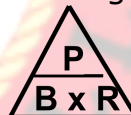
$$\frac{8}{\text{Base (B)}} = \frac{10\%}{100}$$

$$B = 8 \times 100$$

$$B = 800 \div 10$$

$$B = 80$$

Using the Triangle Method



or 10% of what number is 8?



$$B = \frac{P}{R} \quad B = \frac{8}{10\%}$$

$$B = 8 \div 10\%$$

$$B = 8 \div 0.10$$

$$B = 80$$

MATHEMATICS 6

Second Quarter
DLA No. 4

Type of Activity: Concept Development

Activity Title	:	Elements of a Percent Finding the Rate
Learning Objective	:	Identify the elements of percent. Compute for the rate. Solve problems involving finding the rate. Shares his/her God –given gifts and talents for the service of others.
References	:	Mathematics in a Challenging World 6 Math Connections 6
Author	:	Luzviminda Funa and Lourdes Dela Cruz Felipe De Guzman and Amelia De Vera

Concept Notes:

1. To find the rate, we can use the following methods.

Using the Ratio and Proportion

$$\frac{\text{Percentage (P)}}{\text{Base (B)}} = \frac{\text{Rate (R)}}{100}$$

Ex. What percent of 250 is 150? or 150 is what percent of 250?
* We will find the rate.

$$\frac{\text{Percentage (P)}}{\text{Base (B)}} = \frac{\text{Rate (R)}}{100}$$

$$\frac{150}{250} = \frac{\text{Rate (R)}}{100}$$

$$R = 150 \times 100$$

$$R = 15,000 \div 250$$

$$R = 60\%$$

Using the Triangle Method



$$R = \frac{P}{B}$$

$$R = \frac{150}{250}$$

$$R = 150 \div 250$$

$$R = 0.6$$

$$R = 60\%$$

MATHEMATICS 6

Third Quarter
DLA 5

Type of Activity: Concept Development

Activity Title	:	Application of Percent - Discount
Learning Objectives	:	1. Identify the different terms used in discount. 2. Apply the knowledge of percent in computing for discount. 3. Solve word problems involving discount. 4. Thinks sensibly before doing an action.
Reference	:	Mathematics in a Challenging World 6 Math for Life 6
Author	:	Luzviminda Funa and Sylvia Ortiz Amelia Wright and Adela Villamayor

Concept Notes:

- Discount is a reduction from the original price of a product or a decrease in the price of an item. It is the **percentage**.
- Terms used:
 - Original Price is the amount of an item before the discount is made. It is the **base**.
 - Rate of Discount is the discount stated in percent. It is the **rate**.
 - Selling Price is the price of the item or product after removing the discount. It is sometimes called the discounted price.
- To find the missing term we can use the following methods.

Ratio and Proportion

$$\frac{\text{Discount}}{\text{Original Price}} = \frac{\text{Rate of Discount}}{100}$$

Triangle Method



$$D = OP \times RD$$

$$OP = \frac{D}{RD}$$

$$RD = \frac{D}{OP}$$

$$\boxed{SP = OP - D}$$

Ex.

20% off

Regular Price
₱1,200.00

$$\frac{\text{Discount}}{1,200} = \frac{20\%}{100}$$

$$D = 1,200 \times 20$$

$$D = 24,000 \div 100$$

$$\boxed{D = 240}$$

$$SP = OP - D$$

$$SP = 1,200 - 240$$

$$\boxed{SP = 960}$$

$$D = OP \times RD$$

$$D = 1,200 \times 20\%$$

$$D = 1,200 \times 0.20$$

$$\boxed{D = 240}$$

$$SP = OP - D$$

$$SP = 1,200 - 240$$

$$\boxed{SP = 960}$$

MATHEMATICS 6

Third Quarter
DLA 6

Type of Activity: Concept Development

Activity Title	:	Application of Percent - Commission
Learning Objectives	:	1. Identify the different terms used in commission. 2. Apply the knowledge of percent in computing for commission. 3. Solve word problems involving commission. 4. Shows responsibility in all his undertakings.
Reference	:	Mathematics in a Challenging World 6 Math for Life 6
Author	:	Luzviminda Funa and Sylvia Ortiz Amelia Wright and Adela Villamayor

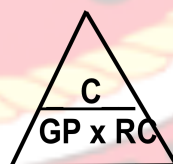
Concept Notes:

1. Commission is an incentive or an amount given to the seller by the owner of the item or property being sold. It is the **percentage**.
2. Terms used:
 - Gross Price is the total amount of the item or property. It is the **base**.
 - Rate of Commission is the commission stated in percent. It is the **rate**.
 - Net Price is the amount the owner will receive after deducting the commission.
3. To find the missing term we can use the following methods.

Ratio and Proportion

$$\frac{\text{Commission}}{\text{Gross Price}} = \frac{\text{Rate of Commission}}{100}$$

Triangle Method



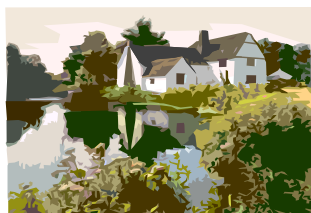
$$C = GP \times RC$$

$$GP = \frac{C}{RC}$$

$$RC = \frac{C}{GP}$$

$$NP = GP - C$$

Ex. House and Lot



₱2,000,000
Commission: 5%

$$\frac{\text{Commission}}{2,000,000} = \frac{5\%}{100}$$

$$C = 2,000,000 \times 5\%$$

$$C = 10,000,000 \div 100$$

$$C = \underline{100,000}$$

$$NP = GP - C$$

$$NP = 2,000,000 - 100,000$$

$$NP = \underline{1,900,000}$$

$$C = GP \times RC$$

$$C = 2,000,000 \times 5\%$$

$$C = 2,000,000 \times 0.05$$

$$C = \underline{100,000}$$

$$NP = GP - C$$

$$NP = 2,000,000 - 100,000$$

$$NP = \underline{1,900,000}$$

MATHEMATICS 6

Third Quarter
DLA 7

Type of Activity: Concept Development

Activity Title	:	Application of Percent - Interest
Learning Objectives	:	1. Identify the different terms used in interest. 2. Apply the knowledge of percent in computing for interest. 3. Solve word problems involving interest. 4. Uses his /her resources productively.
Reference	:	Mathematics in a Challenging World 6 Math for Life 6
Author	:	Luzviminda Funa and Sylvia Ortiz Amelia Wright and Adela Villamayor

Concept Notes:

1. Interest is an amount paid for the use of money, usually a part of the amount invested, loaned or borrowed. It is the **percentage**.
2. Terms used:
 - Principal is the amount borrowed or deposited. It is the **base**.
 - Rate of Interest is the interest stated in percent. It is the **rate**.
 - Time is the length of time the money is borrowed or deposited. It is always expressed in years. When expressed in months, the time may become a fraction ; thus 6 months is 6/12 or ½ or 0.05.
 - New Balance is the sum of the principal plus the interest.
3. To find the missing term we can use the following:

$$I = P \times RI \times T \qquad P = \frac{I}{RI \times T} \qquad RI = \frac{I}{P \times T} \qquad T = \frac{I}{P \times RI}$$

$$NB = P + I$$

Ex. P = ₱500 RI = 12% T = 2 years I = ____ NB = ____	I = P x RI X T I = 500 x 12% x 2 I = 500 x 0.12 x 2 I = 60 x 2 I = 120	NB = 500 + 120 NB = 620
--	---	-----------------------------------

P = ____ RI = 5% T = 3 years I = ₱600 NB = ____	P = $\frac{I}{RI \times T}$ P = $\frac{600}{5\% \times 3}$ P = $\frac{600}{0.05 \times 3}$ P = $\frac{600}{0.15}$ P = 4,000	NB = 4,000 + 600 NB = 4,600
---	--	---------------------------------------

MATHEMATICS 6

Third Quarter
DLA 8

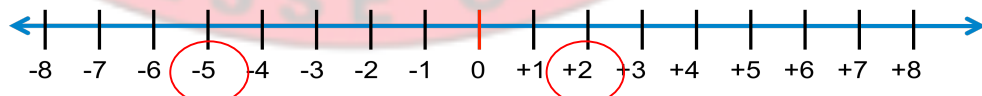
Type of Activity: Concept Development

Activity Title	:	Concept of Integers Comparing and Ordering Integers Absolute Value of Integers
Learning Objectives	:	1. Understand the concept of integers. 2. Appreciate what is right and positive. 3. Compare and order integers in ascending or descending order. 4. Give the absolute value of a given integer. 5. Respect his/her body as the temple of the Holy Spirit by improving himself/herself in terms of attitudes.
Reference	:	Mathematics in a Challenging World 6 Number Smart 6
Author	:	Luzviminda Funa and Sylvia Ortiz Teodora Riel and Herminia Torres

Concept Notes:

1. The set of integers are made up of negative numbers, zero and positive numbers.
2. Zero is the point of origin. It is neither positive nor negative.
3. The absolute value of an integer is the distance of an integer from zero.
Ex. The absolute value of negative 8, $| -8 |$ is 8.
4. Integers lying on the opposite sides of the number line, having the same distance from zero are called additive inverses, the additive inverse of $+5$ is -5 .
5. When comparing or ordering integers always think that the farther the integer is to the right of zero the greater is the value. The farther the integer is to the left of zero the lesser the value.

Ex. $-5 < 2$



Arrange in ascending order

9 -11 0 4 -25

-25 -11 0 4 9

MATHEMATICS 6

Third Quarter
DLA 9

Type of Activity: Concept Development

Activity Title	:	Addition of Integers
Learning Objectives	:	1. Discover the rules for adding integers. 2. Solve word problems involving addition of integers. 3. Thanks God for all the blessings that he/she have been receiving from God.
Reference	:	Mathematics in a Challenging World 6 Number Smart 6
Author	:	Luzviminda Funa and Sylvia Ortiz Teodora Riel and Herminia Torres

Concept Notes:

1. To add integers with the same or like signs, add the integers and affix the common sign.

Ex. $(-3) + (-4) = -7$

$$(+8) + (+10) = +18$$

$$(-4) + (-8) + (-11) = -23$$

2. To add integers with different or unlike signs, subtract the integers and affix the sign of the integer with the greater absolute value.

Ex. $(-24) + 14 = -10$

$$40 + (-22) = 18$$

$$(-37) + (+61) + (+4) + (-12) = +16$$

MATHEMATICS 6

Third Quarter
DLA 10

Type of Activity: Concept Development

Activity Title	:	Subtraction of Integers
Learning Objectives	:	1. Discover the rules for subtracting integers. 2. Apply the concept of subtraction of integers to real life. 3. Shows gratitude in even simple things or favor received from others.
Reference	:	Mathematics in a Challenging World 6 Math Beyond Time 6
Author	:	Luzviminda Funa and Sylvia Ortiz Josefina Suarez

Concept Notes:

1. To subtract integers change the sign of the subtrahend to its opposite and then apply the rules in adding integers.

Ex. $(-3) - (-4) = 1$

$$(+8) - (+10) = -2$$

$$(-4) - (-8) - (-11) = 15$$

$$(-24) - (+14) = -38$$

$$40 - (-22) = 62$$

$$(-37) - (+61) - (+4) - (-12) = -90$$

MATHEMATICS 6

Third Quarter
DLA 11

Type of Activity: Concept Development

Activity Title	:	Multiplication and Division of Integers
Learning Objectives	:	1. Discover the rules for multiplying and dividing integers. 2. Perform multiplication and division of integers accurately. 3. Shares in the mission of Christ to multiply His goodness and blessings.
Reference	:	Mathematics in a Challenging World 6 Math Beyond Time 6
Author	:	Luzviminda Funa and Sylvia Ortiz Josefina Suarez

Concept Notes:

1. If you multiply or divide integers with like or same signs, the result is positive.

Ex. $(-3)(-18) = +54$

$$(8)(24) = +192$$

$$(-56) \div (-14) = +4$$

$$(72) \div (9) = +8$$

2. If you multiply or divide integers with different or unlike signs, the result is negative.

Ex. $(-15)(18) = -270$

$$(250) \div (-5) = -50$$

MATHEMATICS 6

Third Quarter
DLA 12

Type of Activity: Concept Development

Activity Title	:	Geometry Geometric Ideas
Learning Objectives	:	1. Identify the different geometric figures. 2. Give examples of objects that have different geometric figures. 3. Use the different geometric figures in drawing objects. 4. Shows creativity in producing a design using the different geometric figures.
Reference	:	Mathematics in a Challenging World 6 Math Connection 6
Author	:	Luzviminda Funa and Sylvia Ortiz Felipe De Guzman and Amelia De Vera

Concept Notes:

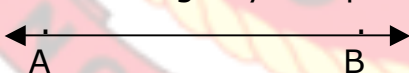
1. Geometry is a branch of mathematics concerned with the properties of space and of figures in space.

2. Undefined terms in geometry means that instead of defining them precisely, we only give intuitive descriptions and properties of the given figure.

a. A point is an exact location in space. It is usually represented by a dot. It is named by using capital letters.

Ex. $\cdot M$ Point M

b. A line is a collection of points along a straight path. Both ends can extend infinitely. Lines are named using any two points lying on the line.

Ex.  Line AB or \overleftrightarrow{AB}

- A line segment is a part of a line having two endpoints. A line segment has exact measure. It is named using the endpoints.

Ex.  Line segment ST or \overline{ST}

- A ray is also a part of a line with an endpoint and extends indefinitely in only one direction. Rays are named using the endpoint and the other point on the opposite side.

Ex.  Ray OS or \overrightarrow{OS}

c. A plane is any perfectly flat or smooth surface. It can extend infinitely in all directions. A plane has only two dimensions, the length and the width.

Ex.  Plane A

MATHEMATICS 6

Third Quarter
DLA 13

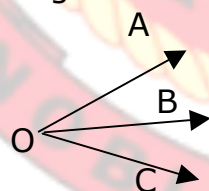
Type of Activity: Concept Development

Activity Title	:	Angle Angle Measurement
Learning Objectives	:	1. Identify the kinds of angles and angle pairs. 2. Draw the different kinds of angles. 3. Measure angles using a protractor. 4. Realizes that he/she has the responsibility of preserving God's creation.
Reference	:	Mathematics in a Challenging World 6 Math Connection 6
Author	:	Luzviminda Funa and Sylvia Ortiz Felipe De Guzman and Amelia De Vera

Concept Notes:

1. An angle is the union of two rays with a common endpoint, which is the vertex.
2. The measure of an angle is the number of degrees in the angle.
3. A protractor is an instrument used for measuring or drawing an angle.
4. The different kinds of angles are:
 - acute angle measures less than 90 degrees
 - right angle measures exactly 90 degrees
 - obtuse angle measures more than 90 degrees but less than 180 degrees
 - straight angle measures exactly 180 degrees
 - reflex angle measures more than 180 degrees but less than 360 degrees
5. The different angle pairs are:
 - adjacent angles are two angles with a common side and a common vertex

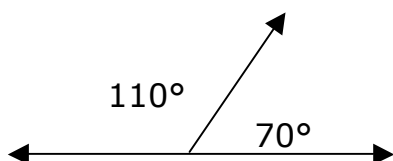
Ex.



Angle AOB is adjacent to Angle BOC.

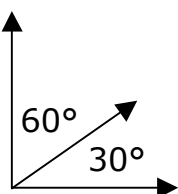
Ex.

- supplementary angles are two angles with a sum of 180 degrees



Ex.

- complementary angles are two angles with the sum of 90 degrees



MATHEMATICS 6

Third Quarter
DLA 14

Type of Activity: Concept Development

- Activity Title : Polygon
Kinds of Polygon
Tessellations
- Learning Objectives : 1. Name the different kinds of polygons.
2. Use a formula to find the total measure of angles in a polygon.
3. Be a peacemaker instead of taking sides in a quarrel or misunderstandings.
- Reference : Mathematics in a Challenging World 6
Author : Luzviminda Funa and Sylvia Ortiz

Concept Notes:

1. Polygons are closed figures made up entirely of line segments.
2. We classify polygons by the number of sides.

Sides	Name
3	Triangle
4	Quadrilateral
5	Pentagon
6	Hexagon
7	Heptagon
8	Octagon
9	Nonagon
10	Decagon
11	Undecagon
12	Dodecagon

3. To find the sum of the measures of the angles of a polygon, use this formula:

$$S = (n - 2) \times 180^\circ$$

Where: S = sum of the angles of a polygon
n = number of sides

MATHEMATICS 6

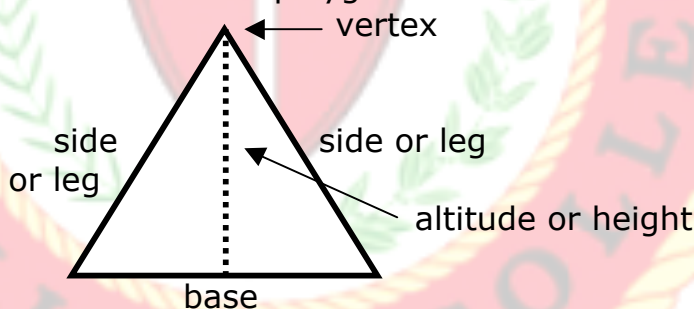
Second Quarter
DLA 15

Type of Activity: Concept Development

Activity Title	:	Kinds of Triangles and Quadrilaterals
Learning Objectives	:	1. Identify parts of a triangle. 2. Classify triangles according to sides and angles. 3. Name the different kinds of quadrilaterals. 4. Find the missing angle of a quadrilateral. 5. Believes in the Holy Trinity, the God the Father, the God the Son and God the Holy Spirit.
Reference	:	Math for Life 6 Mathematics in a Challenging World 6
Author:	:	Amelia Wright and Adela Villamayor Luzviminda Funa and Lourdes Dela Cruz

Concept Notes:

1. A triangle or a trigon is a three sided polygon.
2. Parts of a triangle.



3. Classifying Triangles
 - a. according to sides
 - equilateral triangle has three congruent or equal sides
 - isosceles triangle has two equal sides
 - scalene triangle has no equal sides
 - b. according to angles
 - right triangle has one right angle
 - acute triangle has an acute angle
 - obtuse triangle has one obtuse angle
 - equiangular triangle has 3 congruent angles
4. Quadrilaterals are four sided polygons.
 - parallelogram has both pairs of opposite sides parallel
 - rectangle is a parallelogram with four right angles
 - square is a rectangle with four congruent sides
 - rhombus is a parallelogram with four congruent sides
 - trapezium has no parallel sides
 - trapezoid has one pair of opposite sides parallel

MATHEMATICS 6

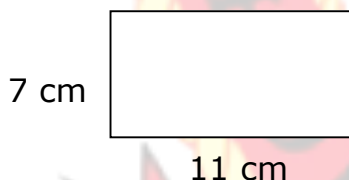
Third Quarter
DLA 16

Type of Activity: Concept Development

Activity Title	:	Area and Perimeter
Learning Objective	:	1. Recall the different formula for finding the perimeter and area of polygons. 2. Find the perimeter and area of given figures. 3. Solve problems involving perimeter and area. 4. Plans before implementing certain tasks.
References	:	Math For Life 6 Number Smart 6
Author	:	Antonina Cruz and Aurea Dela Paz Teodora Riel

Concept Notes:

1. Perimeter is the distance around a polygon.
2. To find the perimeter of a polygon just add all the measurement of its sides.
Ex.



$$\begin{aligned}P &= 7 + 7 + 11 + 11 \\P &= 14 + 22 \\P &= 26 \text{ cm}\end{aligned}$$

3. You can also use the formula for finding the perimeter.
Rectangle $P = 2l + 2w$
Square $P = s \times 4$
Triangle $P = s + s + s$
Regular polygons $P = s \times n$ where: n is the measurement of one side
 s is the number of sides

4. Area is the number of square units in a polygon.

To find the area use the following formula:

Rectangle	$A = l \times w$
Square	$A = s \times s$
Triangle	$A = b \times h/2$
Parallelogram	$A = b \times h$
Trapezoid	$A = (b_1 + b_2) \times h/2$

MATHEMATICS 6

Third Quarter
DLA 17

Type of Activity: Concept Development

Activity Title	:	Circle Area and Circumference
Learning Objectives	:	1. Identify the different parts of a circle. 2. Find the circumference and area of a circle. 3. Solve problems involving finding the circumference and area of a circle. 4. Shows a positive outlook in life especially in tiring times.
Reference	:	Mathematics in a Challenging World 6 Number Smart 6
Author	:	Luzviminda Funa and Sylvia Ortiz Teodora Riel and Herminia Torres

Concept Notes:

1. A circle is a plane figure bounded by a single curved line, every point of which is equidistant from the point within called a center.

2. Parts of a circle

- radius is a segment from the center of the circle to any point on the circle

- chord is a segment whose endpoints are on the circle

- diameter is a chord that passes through the center of the circle

3. Circumference is the distance around a circle.

To find the circumference use the formula:

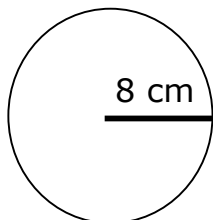
$$C = \pi d \text{ or } C = 2\pi r$$

4. Area is the number of square units in a circle.

To find the area use the formula:

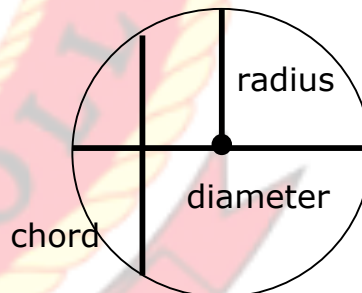
$$A = \pi r^2$$

Ex.



$$\begin{aligned} C &= 2\pi r \\ C &= 2 \times 3.14 \times 8 \\ C &= 6.28 \times 8 \\ C &= 50.24 \text{ cm} \end{aligned}$$

$$\begin{aligned} A &= \pi r^2 \\ A &= 3.14 \times 8^2 \\ A &= 3.14 \times 64 \\ A &= 200.96 \text{ cm}^2 \end{aligned}$$



MATHEMATICS 6

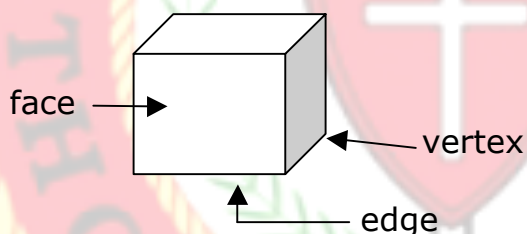
Third Quarter
DLA 18

Type of Activity: Concept Development

Activity Title	:	Space figures
Learning Objective	:	1. Name the different space figures. 2. Identify objects that are shaped like the different space figures. 3. Respects his/her body as a vessel of the Holy Spirit.
References	:	Math for Life 6 Math Connections 6
Author	:	Amelia Wright and Adela Villamayor Felipe De Guzman and Amelia De Vera

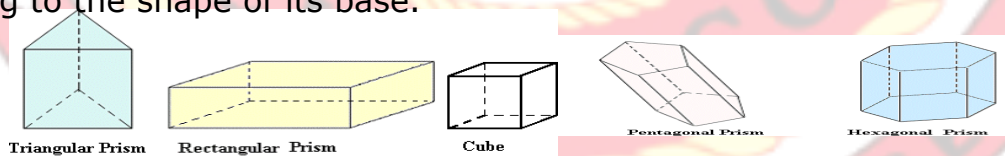
Concept Notes:

1. A solid or space figure is three-dimensional. It has length, width and height.
2. A polyhedron is a solid with plane or flat surfaces. The flat surface is the face, the intersection of any two faces is called an edge, and the intersection of three or more faces is the vertex.

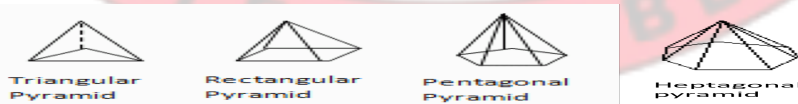


3. Kinds of solids or space figures

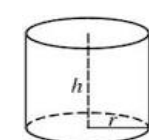
- a. Prism is a polyhedron which has parallel and congruent bases. It is named according to the shape of its base.



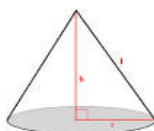
- b. A pyramid is a solid figure whose base is a polygon and whose lateral faces are triangles which intersect at a point called vertex.



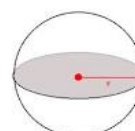
- c. A cylinder is a solid figure that has two congruent circular bases and a curved face.
- d. A cone is a solid figure that has one circular base and a curved surface with a vertex.
- e. A sphere is a simple closed surface formed by a set of points in space that are of the same distance from its center.



cylinder



cone



sphere