LEARNING AS ONE NATION
Expanded Project
L E A R N I N G A C T I V I T Y

Math 10_17

Name: _____ **Grade/Score:** _____
Grade and Section: _____ **Date:** _____

Subject *(Check or choose from below.)*_____

- ☐ Religion/Values Education
- ☐ Natural Sciences
- ☐ Araling Panlipunan
- ☐ Filipino
- ☐ English
- ☐ Math
- ☐ TLE / ICT
- ☐ MAPEH
- ☐ HGPCAdT

Type of Activity *(Check or choose from below.)*_____

- ☐ Concept Notes
- ☐ Skills: Exercise / Drill
- ☐ Performance Task
- ☐ Illustration
- ☐ Formal Theme
- ☐ Informal Theme
- ☐ Others: _____

Activity Title: The Remainder Theorem

Learning Target: To apply the remainder theorem.

References: *(Author, Title, Pages)*
1) F.B. Orines, et al., Next Century Mathematics, pp. 110-111
2) V.J.A. Dublin, CVIF Learning Activities

The Remainder Theorem

If a polynomial $p(x)$ is divided by a binomial $(x-c)$, then the remainder is equal to $p(c)$.

Example: Determine the remainder when $p(x) = 4x^2 - 10x + 6$ is divided by $x - 2$.

Solution: To determine the remainder, evaluate $p(x)$ where $x = c$ or simply find $p(c)$.

Step 1: Solve for c.

$$x - c = x - 2$$
$$c = 2$$

Step 2: Substitute $c = 2$ in $p(x) = 4x^2 - 10x + 6$.

$$p(2) = 4(2)^2 - 10(2) + 6$$
$$= 4(4) - 20 + 6$$
$$= 2$$

Therefore, the remainder of $(4x^2 - 10x + 6) \div (x - 2)$ is 2.

Exercises: Determine the remainder of the given polynomial $p(x)$ divided by the given divisor $x - c$.

1) $p(x) = 8x^3 + 2x^2 - 10x + 9$ divided by $(x + 3)$
2) $p(x) = 2x^4 + 10x^3 - 20x^2 - 40x + 1$ divided by $(x - 4)$