

Intermediate Numbers * Extended Concepts 2 A

Definitions should be re-stated or paraphrased textbook definitions not word for word!

After completing Basic Knowledge Activities, Collaborate with classmates, Get or Give Help!

Real & Virtual Manipulatives help to achieve knowledge for Concepts & Problems!

[Complete any four of the provided Conceptual Activities!](#)

1. **Using Even & Odd Numbers & (+)(-):** Define & provide (4) examples of the Closure Property!

Closure Property states if any two Ns of a number set **with** an operation yields a number of the number set.

$(2) + (4) = 6$ Even with (+) are Closed $(3) + (5) = 8$ Odd with (+) are Not Closed

$(2) - (4) = -2$ Even with (-) are Not closed $(5) - (3) = +2$ Odd with (-) are Not closed

Does one or even 100 example(s) of a property prove the property exists for All Numbers in a Number Set?

2. **Using Even & Odd Numbers & (+)(-):** Define & provide (4) examples of Commutative Property!

Commutative Property states if any two Ns of a number set **with** an operation are equal if **order reversed!**

$(2) + (4) = (4) + (2)$ $(3) + (5) = (3) + (5)$ Even and Odd with (+) are Commutative

$(2) - (4) = (4) - (2)$ $(3) - (5) = (3) - (5)$ Even and Odd with (-) are Not Commutative

Does one or even 100 example(s) of a property prove the property exists for All Numbers in a Number Set?

3. **Using Even & Odd Numbers & (+)(-):** Define & provide (2) examples of Associative Property!

Associative Property states if any three Ns of a number set **with** an operation can be operated in **any group.**

$[(2)+(4)]+(6) = (2)+[(4)+(6)]$ $[(3)+(5)]+(7) = (3)+[(5)+(7)]$ Even & Odd with (+) are **Associative**

$[(2)-(4)]-(6) = (2)-[(4)-(6)]$ $[(3)-(5)]-(7) = (3)-[(5)-(7)]$ Even & Odd with (-) are **Not Associative**

Does one or even 100 example(s) of a property prove the property exists for All Numbers in a Number Set?

4. **Using Even & Odd Numbers & (+)(X):** Define & provide (2) examples of Identity Property!

Identity Property states any if N of a set **with** operation does not change any other number it is an **Identity!**

$(2) + (0) = 2$ Even with (+) have an Identify! $(3) + (0) = 3$ Odd with (+) have an Identify!

$(2) - (0) = 2$ Even with (-) have an Identify! $(3) - (0) = 3$ Even with (-) have an Identify!

Does one or even 100 example(s) of a property prove the property exists for All Numbers in a Number Set?

5. **Using Even & Odd Numbers & (+)(X):** Define & provide (2) examples of Inverse Property!

Inverse Property states if any two same Ns of a set **with** an operation yields a unique number, it is **Inverse!**

$(2) + (2) = 4$ Even with (+) do not have an **Inverse!** $(3) + (3) = 6$ Odd with (+) do not have an **Inverse!**

$(2) \times (2) = 4$ Even with (x) do not have an **Inverse!** $(3) \times (3) = 9$ Odd with (x) do not have an **Inverse!**

Does one or even 100 example(s) of a property prove the property exists for All Numbers in a Number Set?

6. **Using Even & Odd Numbers & (+)(X):** Define & provide (2) examples of Distributive Property!

Distributive Property states a Number may be dispersed over a sum of two numbers & equal same value.

$(2)[(4)+(6)] = [(2)(4)]+[(2)(6)]$ thus $(2)\times(10) = (8)+(12)$ Multiplication can be distributed over addition!

$(2)[(4) - (6)] = [(2)(4)] - [(2)(6)]$ thus $(2)\times(-2) \neq (8)-(12)$ Multiplication can't distributive on subtraction!

Does one or even 100 example(s) of a property prove the property exists for All Numbers in a Number Set?

7. **Define and provide** (3) examples of the Rounding Technique! Below, Halfway, Above

Rounding is used to make it easier to compute numbers for Mental Math **and** for an answer for checking!

There are (3) types of rounding to consider: Below, Halfway, Above. Is a number in any of these cases?

Examples: Round provided numbers to the nearest tens: 432 435 437

Numbers fall between 430 and 440 432 is **closest** to 430 435 is middle thus 440 437 is **closest** to 440

8. **Define and provide** (2) examples of the Estimating Technique! Using Addition & Multiplication!

Estimating is used to determine an approximate temporary answer using Mental Math and Rounding.

An estimation of an approximate temporary answer for the provided problems is to the nearest ten!

Example: $453 \times 103 = 45000$ Example: $237 + 1023 = 1260$

Note the examples provide temporary and approximate answers for a quick and easy use in a Real World case!

Use WWW Links below to enhance understanding of concepts above:

[AAA Mathematics Online](#) [World of Mathematics](#) [A+ Mathematics Web Site](#)
[Math Forum@Drexel](#) [Cool Mathematics Site](#) [GoMath Online Help](#)
[MathWords](#) * [WebMath](#) * [MathWorld](#) * [MathStuff](#) * [All Math Kids](#)
[GLSHP](#) * [NLVM](#) * [BRKCC](#) * [CTME](#) * [OIMAG](#)