**2.5 – Exponent Laws (Part 2)**

INVESTIGATE

1. Complete the following table:

|  |  |  |  |
| --- | --- | --- | --- |
| **Power of a Power** | **As Repeated Multiplication** | **As a Product of Factors** | **As a Single Power** |
| (43)2 |  |  |  |
| (32)4 |  |  |  |
| [(-5)2]3 |  |  |  |

2. What rule can you create to reduce a power of a power?

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**Exponent Laws (Part 2)**

**Power of a Power:**

**Power of a Product:**

**Power of a Quotient:**

Where *a* and *b* are rational bases, except 0; *m* and *n* are rational exponents

Ex. 1: Write as a power.

1. (62)7 (b) [(-7)3]2 (c) -(24)5

Ex. 2: Evaluate in two different ways:

1 - using the exponent laws 2 – using the order of operations

1. (-7 × 5)2

Ex. 3: Simplify, then evaluate each expression.

1. [(-2)2]3 × (-2)3 (b) (32 × 33)2

(c) [(-4)4 ÷ (-4)2]2 (d)

Assignment: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_