Name: **Objective: 6.5**

Date:

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| Cue Column: | Notes: |
| *- I can recognize & describe patterns with exponents* | **Exponential Notation**: A short way to write repeat multiplication of a common factor. |
| *- I can recognize & describe patterns of perfect squares* | EXAMPLE: |
| *- I can recognize patterns of powers of ten* | BASE*Exponent*: BASE: EXPONENT: |
|  | EXAMPLE: 6 X 6 X 6 X 6 X 6 = 65 BASE= EXPONENT= |
|  | EXAMPLE: 3 X 3 X 3 X 3= 34 BASE= EXPONENT= |
|  |  |
| -How do exponential notation | **Power of a Number:** Represents repeated multiplication of the number by itself |
| & power of a number relate? | 2nd Power= 3rd Power= \*Any real number other than zero raised to the zero power equals 1. |
|  | EXAMPLE: 40= \_\_\_\_\_\_ EXAMPLE: 83 = 8 X 8 X 8= is read “8 to the third power |
|  | **Powers of Ten:** 10 to a power (used in scientific notation) |
|  | EXAMPLE: 105= 103= |
|  |  |
|  | **Perfect Squares**: The numbers that result from multiplying any whole number by itself |
| - What does this look like? | \* Can be represented geometrically as the area of squares when the length & width of its sides are whole numbers |
|  | EXAMPLE: 36= \_\_\_\_\_\_\_\_ FIGURE: |
|  |  |
|  | **Square Roots: The square root of a number is a value that, when multiplied by itself, gives the number.** |
|  | Symbol is: √ EXAMPLE: √25=5 because 5 X 5= 25…a perfect square |
| -Example Problems: |  |

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| **Powers** | **Words** | **Expression** | **Value** | **Square Root** |
| 42 |  |  |  |  |
|  |  | 5 x 5 x 5 x 5 x 5 x 5 |  |  |
|  | 7 to the fourth power |  |  |  |
| 93 |  |  |  |  |

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**Summary:**

**What does exponential form represent?**

**What is the relationship between perfect squares and a geometric square?**