Integer Bases and Zero Exponents

**Number**

**Unit 3 Line Master 1a**

1. What about 0?

Choose a number to use as the base. Complete the table.

|  |  |
| --- | --- |
| **Power** | **Standard Form** |
| \_\_\_\_4 |  |
| \_\_\_\_3 |  |
| \_\_\_\_2 |  |
| \_\_\_\_1 |  |
| \_\_\_\_0 |  |

2. Negative or Not?

Complete the table.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Power** | **Base** | **Exponent** | **Expanded Form** | **Standard Form** |
| $$2^{3}$$ | 2 | 3 |  |  |
| $$\left(-2\right)^{3}$$ |  |  |  |  |
| $$-(2^{3})$$ |  |  |  |  |
| $$-2^{3}$$ |  |  |  |  |
| $$-\left(-2\right)^{3}$$ |  |  |  |  |

3. Use the values of these powers to sort them in the table below.

$-(1^{10})$ $ 1^{10} -1^{2}$ $(-1)^{3}$ $-\left(-1^{6}\right) $ $-(1^{9})$ $(-1)^{100}$

|  |  |
| --- | --- |
| **Positive** | **Negative** |
|  |  |

 Integer Bases and Zero Exponents

**Number**

**Unit 3 Line Master 1b**

4. Calculate:

a) the side length of a square with an area of 196 cm².

b) the edge length of a cube with a volume of 64 cm³.

**Extension**

5. What is the ones digit of the value of $3^{1992}$? How can you find out?
**Hint:** Use what you know to figure out what you don’t know.