

Name \_\_\_\_\_



## Reciprocal For Negatives

**Directions:** Complete each table. Look for the pattern as the exponent decreases by 1. Then write the reciprocal form for each negative exponent.

**Pattern Tables**

| Exponent   | Value |
|------------|-------|
| $2^3$      | 8     |
| $2^2$      | 4     |
| $2^1$      | 2     |
| $2^0$      | 1     |
| $2^{(-1)}$ | _____ |
| $2^{(-2)}$ | _____ |
| $2^{(-3)}$ | _____ |

Write the reciprocal forms:

$$2^{(-1)} = \underline{\hspace{2cm}}$$

$$2^{(-2)} = \underline{\hspace{2cm}}$$

$$2^{(-3)} = \underline{\hspace{2cm}}$$

**Pattern Tables**

| Exponent   | Value |
|------------|-------|
| $5^2$      | 25    |
| $5^1$      | 5     |
| $5^0$      | 1     |
| $5^{(-1)}$ | _____ |
| $5^{(-2)}$ | _____ |

Write the reciprocal forms:

$$5^{(-1)} = \underline{\hspace{2cm}}$$

$$5^{(-2)} = \underline{\hspace{2cm}}$$

**Pattern Tables**

| Exponent    | Value |
|-------------|-------|
| $10^2$      | 100   |
| $10^1$      | 10    |
| $10^0$      | 1     |
| $10^{(-1)}$ | _____ |
| $10^{(-2)}$ | _____ |
| $10^{(-3)}$ | _____ |

Write the reciprocal forms:

$$10^{(-1)} = \underline{\hspace{2cm}}$$

$$10^{(-2)} = \underline{\hspace{2cm}}$$

$$10^{(-3)} = \underline{\hspace{2cm}}$$

### Find the Rule

Complete the sentence.

When the exponent becomes negative, the value becomes the \_\_\_\_\_  
of the matching positive exponent.

### Example:

$$7^{(-2)} = \frac{1}{7^2}$$