Logarithm Rules Worksheet NAME:

Remember to think of $\log_b x$ as the number to which I raise b to get x. This is very important in the study of logs.

Let b, v, and w be positive real numbers where b is not equal to one. Let k be a real number.

1. In words, what is $\log_b b$? It's the number to which I raise _____ to get _____.

What does this number we call $\log_b b$ have to be?

2. In words, what is $\log_b 1$? It's the number to which I raise _____ to get _____.

What does this number we call $\log_b 1$ have to be?

3. In words, what is $\log_b (b^k)$? It's the number to which I raise _____ to get _____.

What does this number we call $\log_b (b^k)$ have to be?

4. Now $\log_b v$ is the number to which I raise b to get v. Therefore b raised to this power or $b^{\log_b v}$ should be what number?