

Principles of Exponential Notation

1. Is this statement always true, sometimes true, or never true?

$$3^n > 3 \times n$$

A. What is your discovery? Show at least three examples and/or three counter examples to prove your reasoning.

B. What if the 3 were a different number? Is your answer still the same? Explain your reasoning.

2. Is this statement always true, sometimes true, or never true?

$$\frac{a^5}{a^3} = a^2$$

What is your discovery? Show at least three examples and/or three counter examples to prove your reasoning.

3. Is this statement always true, sometimes true, or never true?

$$a^2 \times a^3 = a^5$$

What is your discovery? Show at least three examples and/or three counter examples to prove your reasoning.