CONCEPT: POWERS AND ROOT FUNCTIONS

When we raise a value in scientific notation to a particular power we raise the coefficient to that power, but then we _____ the exponent and the power.

$$(3.0 \times 10^{-2})^3 =$$

When we take a value in scientific notation to the nth root we raise the coefficient to the reciprocal power and we _____ the exponent portion by that reciprocal power value.

$$\sqrt[3]{6.0 \times 10^9} =$$

EXAMPLE: Using the method discussed above, determine the answer to the following question.

$$(7.5 \times 10^{-3})^5 \cdot \sqrt[4]{(8.6 \times 10^{21}}$$