Common Algebra Mistakes
Fragment: Exponents

The Mistake Fragment

Find the algebra mistake:

$$x^{-\frac{3}{2}} = \frac{1}{\sqrt[3]{x}}$$

Need a hint? Look carefully at the red part of the algebra:

$$x^{-\frac{3}{2}} = \frac{1}{\sqrt[3]{x}}$$

The Correction

$$x^{-\frac{3}{2}} = \frac{1}{x^{\frac{3}{2}}} = \frac{1}{\sqrt{x^3}}$$

An Explanation

The first step, that a negative exponent indicates a reciprocal, is correct. But the power 3/2 means raise to the third power and then take the square root (the 1/2 power).