

Name Key Score _____

Simplify the complex fraction.

$$1) \frac{4 + \frac{2}{x}}{\frac{x}{3} + \frac{1}{6}} = \frac{\frac{4x+2}{1 \cdot x}}{\frac{(2)x}{(2)3} + \frac{1}{6}} = \frac{\frac{4x+2}{x}}{\frac{2x+1}{6}} = \frac{4x+2}{x} \cdot \frac{6}{2x+1} \Rightarrow$$

Rewrote it only

$$\frac{4x+2}{x} \cdot \frac{6}{2x+1} = \frac{2(2x+1)}{x} \cdot \frac{6}{2x+1} = \frac{2(6)}{x} = \frac{12}{x}$$

$x \neq 0, -\frac{1}{2}$

Simplify the expression in two ways using method I and method II and using only positive exponents in your answer.

$$2) \frac{m^{-1} + z^{-1}}{m^{-1} - z^{-1}} = \frac{\frac{1}{m} + \frac{1}{z}}{\frac{1}{m} - \frac{1}{z}} = \frac{\frac{z+m}{mz}}{\frac{z-m}{mz}} = \frac{z+m}{mz} \cdot \frac{mz}{z-m} = \frac{z+m}{z-m}$$