

Name: ANSWER KEY

Score: _____

Simplify: $\frac{\frac{1}{(x+h)^2} - \frac{1}{x^2}}{h} = \frac{\left[\frac{1}{(x+h)^2} - \frac{1}{x^2} \right] (x+h)^2 x^2}{h (x+h)^2 x^2} = \frac{x^2 - (x+h)^2}{h (x+h)^2 x^2}$

$$= \frac{x^2 - (x^2 + 2xh + h^2)}{h (x+h)^2 x^2} = \frac{-2xh - h^2}{h (x+h)^2 x^2} = -\frac{\cancel{h}(2x+h)}{\cancel{h}(x+h)^2 x^2} = \boxed{-\frac{2x+h}{(x+h)^2 x^2}}$$