Provide a clear and organized presentation. Show all of your work. Evaluate each of the following limits, if they exist. If they do not, state such.

1.
$$\lim_{x \to 3} \frac{x^2 - 12}{(x - 3)^2}$$

$$2. \qquad \lim_{x\to 0}\frac{\left(x+2\right)^4-16}{x}$$