$\qquad$
Directions: Show all steps (within reason). Simplify your answer.

1. This problem concerns the function $f(x)=\frac{3}{x-2}$. Do either (a) or (b) below. (Your choice.)
(a) Use a limit definition of the derivative to find $f^{\prime}(x)$. Then use your answer to find $f^{\prime}(4)$.
(b) Use a limit definition of the derivative at a point to find $f^{\prime}(4)$.
$\qquad$
Directions: Show all steps (within reason). Simplify your answer.
2. This problem concerns the function $f(x)=\sqrt{x+9}$. Do either (a) or (b) below. (Your choice.) (a) Use a limit definition of the derivative to find $f^{\prime}(x)$. Then use your answer to find $f^{\prime}(16)$. (b) Use a limit definition of the derivative at a point to find $f^{\prime}(16)$.
