6 **(a)** A student makes a conjecture that $(n-1)n(n+1)$ is always a multiple of 12 when n is a positive integer and $n > 1$.

Use a counter example to show that this conjecture is false. **[2]**

(b) Show that $(n-1)n(n+1)$ is always a multiple of 6 when n is a positive integer and $n > 1$. **[3]**