Due: Friday October 25

Do the following problems from the text: pg 117-118: 15, 16, 18, 19,

1) Suppose $f : X \rightarrow Y$, $g : Y \rightarrow Z$ and $g \circ f$ is surjective.
   a) Must $f$ be surjective?
   b) Must $g$ be surjective?
Justify your answers by giving a proof or a counter-example.