7. (2 points each) Circle "TRUE" or "FALSE" for each of the following problems. Circle "TRUE" only if the statement is *always* true. No explanation is necessary.

(a) If $f(x)$ is increasing, then $f'(x)$ is increasing.

TRUE FALSE

(b) Suppose $f'(a) \geq f'(b)$ whenever $a \leq b$. Then f has no points of inflection.

TRUE FALSE

(c) If $f(x)$ is defined for all x, then $f'(x)$ is defined for all x.

TRUE FALSE

(d) If f and g are functions whose second derivatives are defined, then $(fg)'' = fg'' + f''g$.

TRUE FALSE

(e) If the radius of a circle is increasing at a constant rate, then so is the area.

TRUE FALSE

(f) If $f(x)$ has an inverse function, then the derivative of the inverse function is $1/f'(x)$.

TRUE FALSE

(g) If $f'(1) = -3.4$ and $g'(1) = 4.1$, then the function $h(x) = f(x) + g(x)$ is increasing at $x = 1$.

TRUE FALSE

(h) The graph of $y = xe^{-0.1x}$ has an inflection point at $x = 20$.

TRUE FALSE