Quiz 10

Name: _____

1. Find the derivatives of the following functions. [You may use shortcuts.]

   (a) $f(x) = x^5$ $f'(x) = 5x^4$

   (c) $h(t) = 14\sqrt{t}$ $h'(t) = \frac{7}{\sqrt{t}}$

   (b) $g(x) = \frac{1}{x^2}$ $g'(x) = -\frac{2}{x^3}$

   (d) $r(t) = \sqrt[3]{t^2}$ $r'(t) = \frac{2}{3}t^{-1/3}$

2. Why can you not immediately apply the power rule to the function $\frac{1}{x^2}$ and get $\frac{1}{2x^1}$ for its derivative?

   The power rule only applies to a function that is directly x^{power}, and right now $\frac{1}{x^2}$ is not in that format.