7 Difference Quotient as the Slope of a Secant/Chord

1. What is the slope of the secant line between the origin and $x = 4$ on the function $y = \frac{1}{2}x^2$?
2. What is the slope of the secant line between the origin and $x = 3$ on the function $y = \frac{1}{3}x^3$?
3. Find the slope of the secant connecting $f(4)$ and $f(8)$ on the function $y = \frac{1}{4}x^2$.
4. Find the slope of the secant connecting $f(16)$ and $f(25)$ on the function $y = \sqrt{x}$.
5. Consider the function $f(x) = x^2 - 4x + 7$.
   What is the slope of the secant line between $x = 2$ and $x = 3$?
   Compare this to the slope of the secant between $x = 1$ and $x = 2$.
   Comment on your observation.