Calculus 1, assignment 1:

Find the y-coordinate of the point or the missing point for each function and x-value below:

1. $f(x)=\dfrac{x^2+3x}{x+3} \quad x=-3$

2. $f(x)=\dfrac{x^2+3x}{x+3} \quad x=2$

3. $f(x)=\dfrac{x^3-8}{x-2} \quad x=2$ (hint--look at Factoring Special Polynomials in the inside front cover, or Google "difference of cubes")

4. $f(x)=\dfrac{x^3+3x^2-5x}{x} \quad x=0$

Approximate the slope of the tangent lines for each function and x-value below by using the given x-value, and another x-value of your choice that is no more than .01 away from the given x-value.

5. $y=\dfrac{3}{x+2} \quad x=1$

6. $y=\sqrt{2x+1} \quad x=3$