Calculus I
Section 3.2 – The Derivative

Calculate the derivative using the definition of the derivative, and find the equation of the tangent line to *f*(*x*) at the specified value of *x*.

1. $f(x)=-x^2+x, \quad x=2$

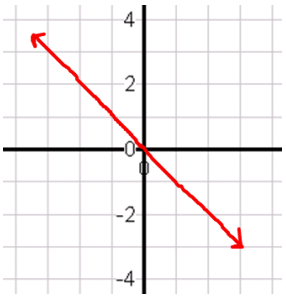
2. $f(x)=4x^3, \quad x=-1$

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

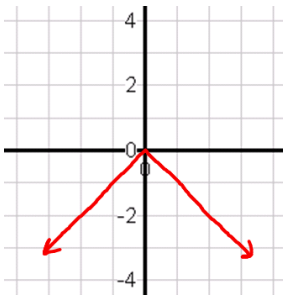
4. $f(x)=\sqrt{2x+1}, \quad x=4$

Sketch the graph of the derivative of the function whose graph is shown.

5.



6.



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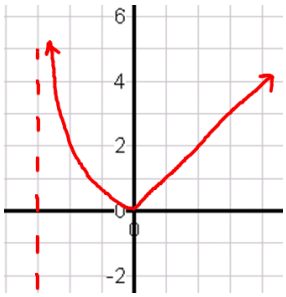

8.