

1. Compute the derivative of the function  $f(x) = (x^2 - 3)^{\frac{1}{2}}$ .
2. You are given the function  $f(x) = x^3 - 7x + 5$ . Find the  $x$ -coordinates of the points on the graph with the property that the tangent line at the points is parallel to the line  $y = 2x - 11$ .

3. The limit  $\lim_{\Delta x \rightarrow 0} \frac{(2+\Delta x)^7 - 2^7}{\Delta x}$  is the derivative of a certain function at a certain point. What is the function and what is the point? Using your answer to this question, find the value of the limit.