BECA / IB Math 03-Quadratic functions Name:
27 January 2022

4.4 Do Now Quiz: Cubic functions and graphing

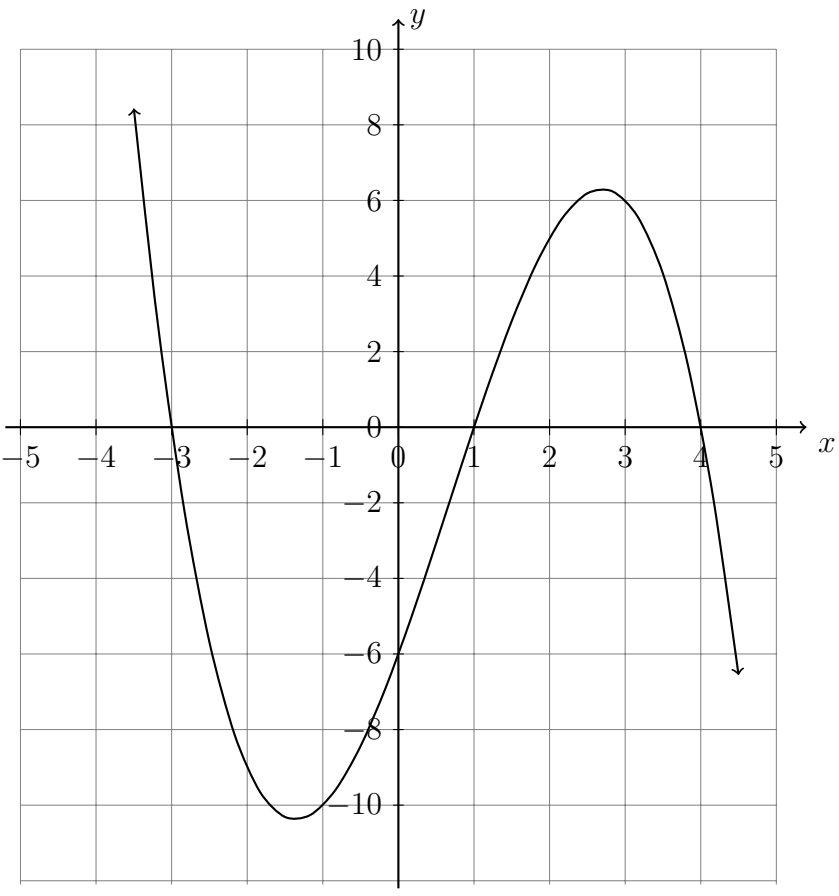
1. Shown in the plot below is the function $f(x) = -0.5x^3 + x^2 + 5.5x - 6$

   (a) Write down the value of $f(0)$. On the graph, mark the point for $f(0)$ with a star.

   (b) Write down the solutions to $f(x) = 0$. Mark them with "X" marks on the graph.

   (c) Mark the local maximum and minimum on the graph with their coordinates rounded to the nearest hundredth.

   (d) Mark the portion of the function that is *increasing* with a squiggly line.

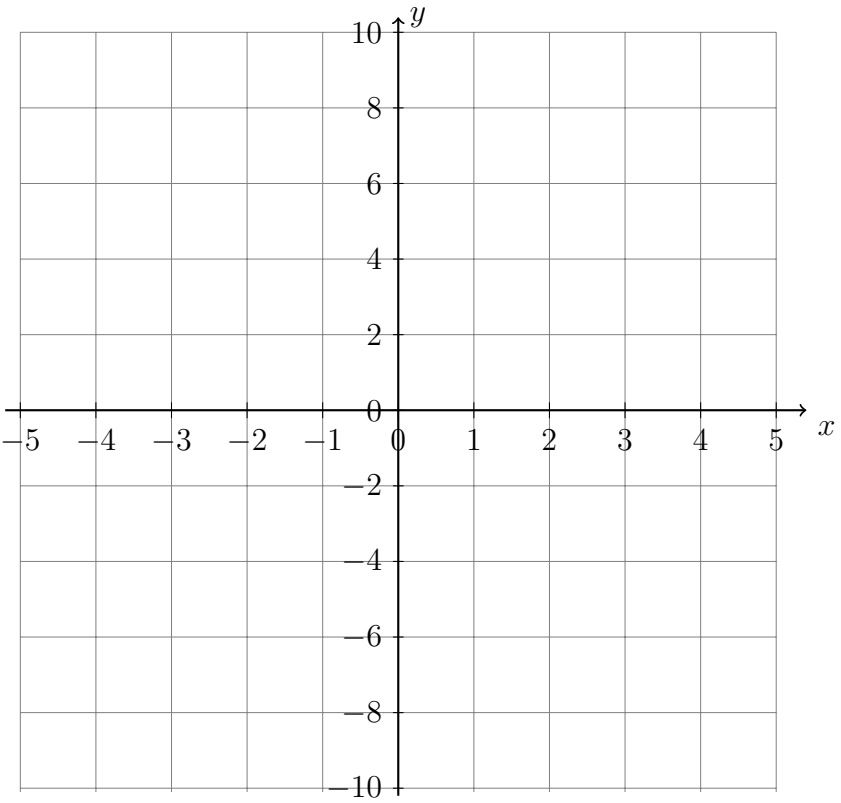


2. Given the function $h(x) = x^3 - 2x^2 - 5x + 6$.

   (a) Write down the y-intercept. Mark it on the plot.

   (b) Show that 1 is an x-intercept because $x = 1$ is a solution to $f(x) = 0$. Mark $(1, 0)$ on the graph as an x-intercept.

   (c) The other x-intercepts are 3 and -2. Mark them on the plot.



   (d) Graph the function on a calculator or computer and, hence, sketch the curve.