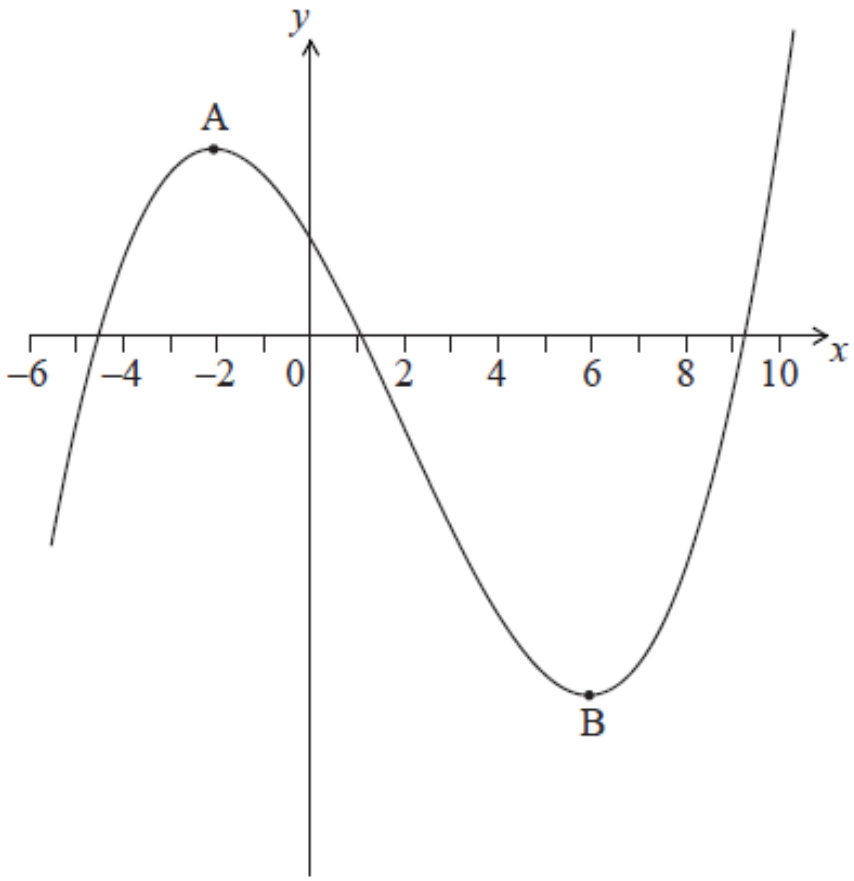
BECA / Huson / 12.1 IB Math SL
26 February 2018

Name:

Classwork assessment: Function graphs

1a. The following diagram shows part of the graph of $y = f(x)$.



The graph has a local maximum at A, where $x = -2$, and a local minimum at B, where $x = 6$.

On the graph above, sketch the graph of $y = f'(x)$. *[4 marks]*

1b. Write down the following in order from least to greatest: $f(0),\ f'(6),\ f''(-2)$. *[2 marks]*

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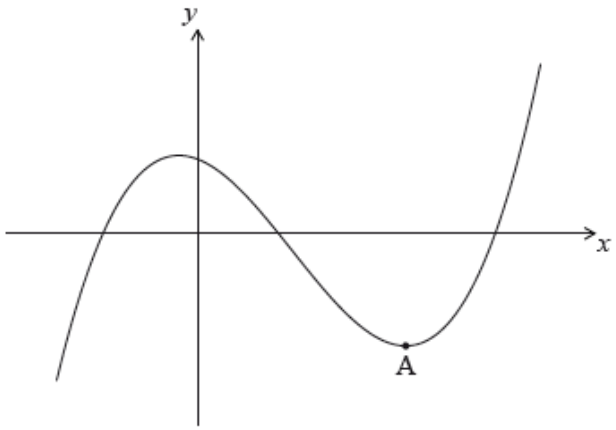
2a. The following diagram shows the graph of a function f. There is a local minimum point at A, where $x > 0$. *[5 marks]*



The derivative of f is given by $f'(x) = 3x^2 - 8x - 3$.

Find the x-coordinate of A.

2b. The y-intercept of the graph is at $(0, 6)$. Find an expression for $f(x)$. *[6 marks]*

2c. The graph of a function g is obtained by reflecting the graph of f in the y-axis, followed by a translation of $\begin{pmatrix} m \\ n \end{pmatrix}$.

Find the x-coordinate of the local minimum point on the graph of g. *[2 marks]*