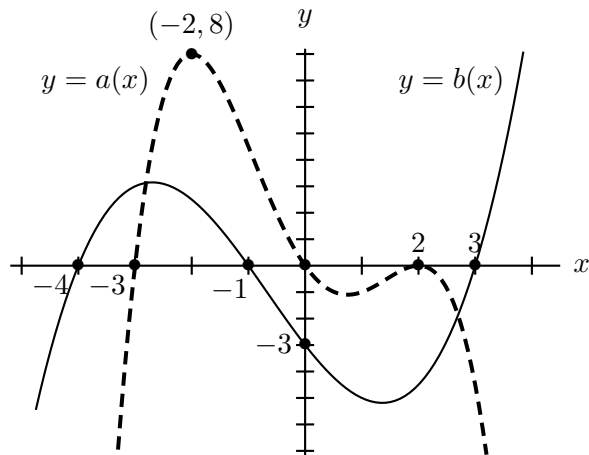


8. [12 points] The graphs of two polynomials $a(x)$ (dashed line) and $b(x)$ (solid line) are shown below. Assume all the key features of the graphs are shown. Note: No work or explanation is required for parts (a)–(c). However, partial credit *may* be awarded for work shown.



- a. [2 points] Evaluate $b(a(2))$.

Answer: _____

- b. [4 points] Find the zero(s) and vertical asymptote(s) of the function $\frac{a(x)}{b(x)}$.

Zero(s): _____ Vertical asymptote(s): _____

- c. [2 points] Estimate the horizontal intercept(s) of the function $a(x) - b(x)$.

Horizontal intercept(s): _____

- d. [4 points] Find a possible formula for the polynomial $a(x)$. You do not need to simplify your answer. *Show your work.*

$a(x) =$ _____