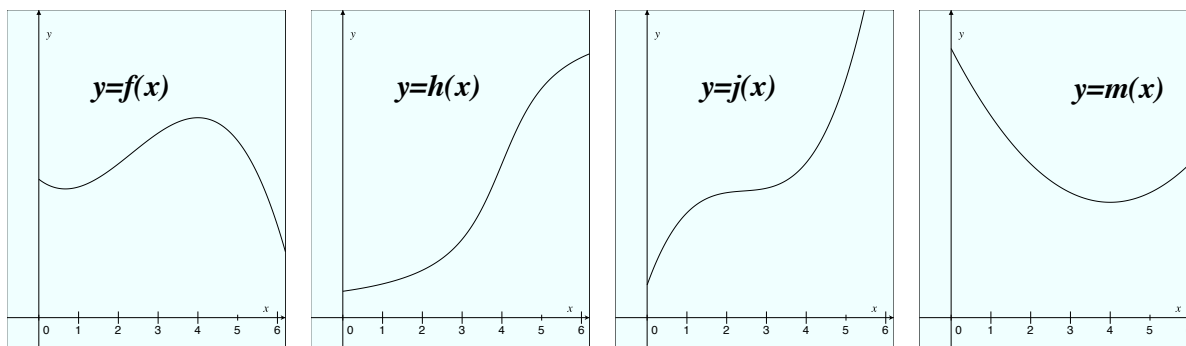


5. [12 points] The questions (a)–(d) refer to the functions whose graphs are depicted below.



For each question, circle the **one** best answer.

Note that these questions are independent of each other; information provided in one should NOT be used in the others. *No explanations are necessary.*

- a. [3 points] Suppose $f(x) = g'(x)$ for some differentiable function g . Then
- g has a local minimum at $x = 4$.
 - g has a local maximum at $x = 4$.
 - g has an inflection point at $x = 4$.
 - None of the above
- b. [3 points] If a function k has a local maximum at $x = 2$, which of the functions above could be the second derivative of k ?
- f
 - h
 - j
 - m
 - None of these
- c. [3 points] Suppose the average cost (in dollars per shirt) of printing a new style of maize U of M Math Department t-shirts is smallest when 400 t-shirts are printed. One of the functions graphed above gives the total cost of printing x hundred maize U of M t-shirts. Which of the graphs represents this function?
- f
 - h
 - j
 - m
- d. [3 points] Suppose each of the graphs represents the derivative of a function. Which is (are) the derivative(s) of a function whose global minimum for $0 \leq x \leq 5$ occurs at $x = 0$?
- h and j
 - m
 - None of the graphs
 - All of the graphs