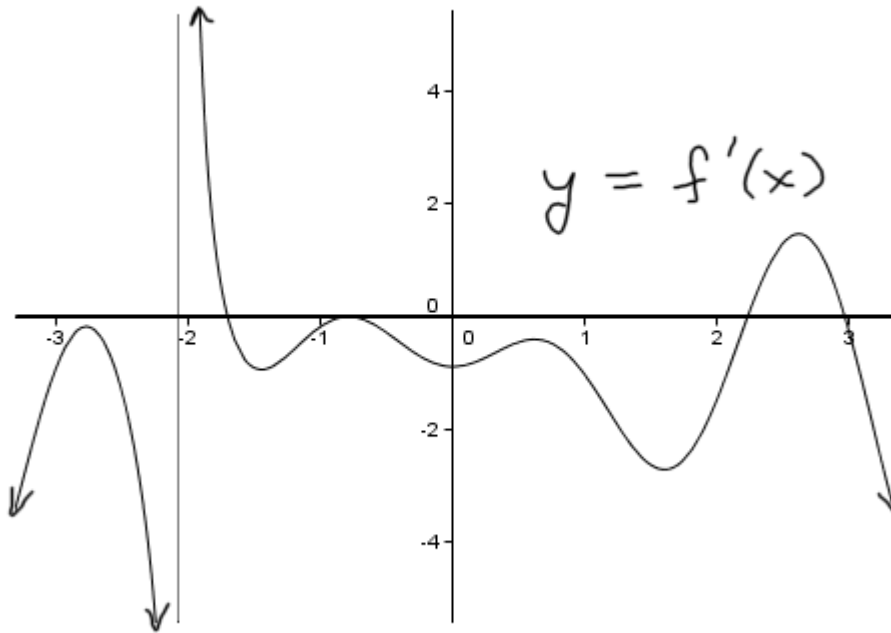


### EMCF24

The problems below uses the information in the following graph, along with the fact that  $f$  is a continuous function whose domain is the set of all real numbers. Note that the graph below is the graph of the derivative of  $f$ .



1. Give the number of intervals of increase for  $f$ .
  - a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.
2. Give the number of intervals of decrease for  $f$ .
  - a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.

3. Give the number of intervals of concave up for  $f$ .
  - a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.
4. Give the number of intervals of concave down for  $f$ .
  - a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.
5. Give the number of inflection numbers for  $f$ .
  - a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.
6. Give the number of critical numbers for  $f$ .
  - a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.
7. Give the number of local maximums for  $f$ .
  - a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.

8. Give the number of local minimums for  $f$ .
- a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.
9. Give the number of vertical cusps for  $f$ .
- a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.
10. Give the number of vertical tangents for  $f$ .
- a. 1
  - b. 2
  - c. 3
  - d. 4
  - e. 5
  - f. None of these.