Curve Sketching Stewart Book Review

**p. 239**

Verify that the function satisfies the hypotheses of the Mean Value Theorem on the given interval. Then find all the numbers c that satisfy the conclusion of the Mean Value Theorem.

11. $f\left(x\right)=3x^{2}+2x+5$ , [-1, 1] 13. $f(x)=\sqrt[3]{x}$ , [0, 1]

**p.248**

The graph of the derivative $f’$ of the continuous function $f$ is shown.

1. On what intervals is $f$ increasing or decreasing?
2. At what values of x does $f$ have a local extrema?
3. On what interval is $f$ concave upward or downward?
4. State the x-coordinate(s) of the point(s) of inflection.
5. Assuming that $f(0) = 0$, sketch a graph of $f$.



**p.262**

Sketch the graph of a function that satisfies all of the given conditions.

51.

**p. 309**

Find the local and absolute extreme values of the function on the given interval.

6. $f\left(x\right)=\sin(x+cos^{2}x)$ [0, π ]

Sketch the graph of a function that satisfies the given conditions.



16. The figure shows the graph of the derivative $f’$ of a function $f$.

1. On what intervals is $f$ increasing or decreasing?
2. For what values of x does f have a local extrema?
3. Sketch the graph of$ f’’$.
4. Sketch the graph of $f$.

Sketch the curve.

17. $y=2-2x-x^{3}$ 18. $y=x^{3}-6x^{2}-15x+4$ 19. $y=x^{4}-3x^{3}+3x^{2}-x$