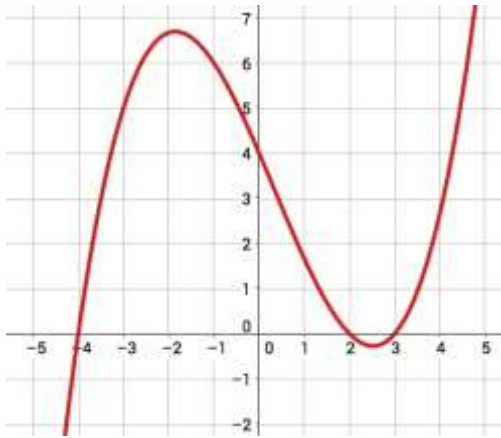


D-AD7

Practice Assessment

Given below is the graph of f' the first derivative of f . Use it to answer #1 and 2.



1. Over what interval(s) is f decreasing? Explain in detail.

2. Where, if anywhere, does f achieve a relative minimum? Justify your response.

D-AD8

3. Find the absolute extrema of $f(x) = 2x^3 - 6x - 2$ over the interval $[-4,0]$.

4. Find and classify all relative maxima and relative minima of $f(x) = -x^3 + 3x^2 + 2$. Justify your classifications.

D-AD9

5. For what interval(s) is the function $f(x) = x^3 + 3x^2 - 9x + 7$ increasing? Justify your answer.

D-CD8

6. Find the value of c guaranteed to exist by the Mean Value Theorem for $f(x) = x^3 - 2x^2$ over $[0,2]$.

7. Find the value of c guaranteed to exist by the Mean Value Theorem for $f(x) = \sqrt{x}$ over $[0,4]$

D-AD18

8. Use a tangent line to approximate $\sqrt[3]{122}$

D-AD0

9. $\lim_{t \rightarrow \infty} \frac{3t^2}{3^t}$

D-AD5 (use a separate sheet!)

11. Find $\frac{dy}{dx} |_{(1,2)}$ for $xy^2 + 2xy = 8$

10. $\lim_{x \rightarrow 3} \frac{\sin(\pi x)}{x^2 - 9}$