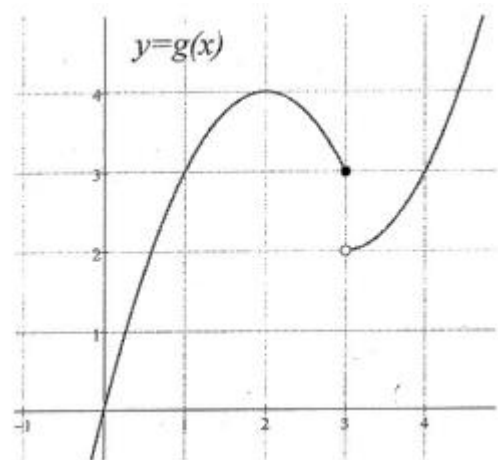


D-CD8 Practice Assessment

1. If c is the value that satisfies the conclusion of the Mean Value Theorem for $f(x) = x^3 - 2x^2$ on the interval $[0,2]$, then what is the value of c ?

2. Explain why the function $g(x)$ does not have a tangent line parallel to the secant line over $[2,4]$. Include a sketch of the secant line.



Curve Sketching: Consider the function $f(x) = \frac{x-1}{x^2}$.

Use of a calculator only for CHECKING answer; all calculations/analysis must be shown.

Required questions:

3. What is the domain?
4. What are the coordinates of the x-intercept (if any)? Of the y-intercept?
5. Find the location of any vertical asymptotes by using limits.
6. Find the location of any horizontal asymptotes by using limits.

$$f(x) = \frac{x - 1}{x^2}$$

D-AD9

D-AD8

7. Find intervals of increase and decrease and classify local extrema. Find the (x,y) coordinates of any extrema.

D-AD12

D-AD11

8. Find the intervals where the function is concave up, concave down, and the (x,y) coordinates of any inflection points.

D-AD13

9. Over what intervals is:
- f increasing concave up?
 - f decreasing concave up?
 - f increasing concave down?
 - f decreasing concave down?

10. Graph the function using the points/analysis you found:

