

YOUR NAME: _____

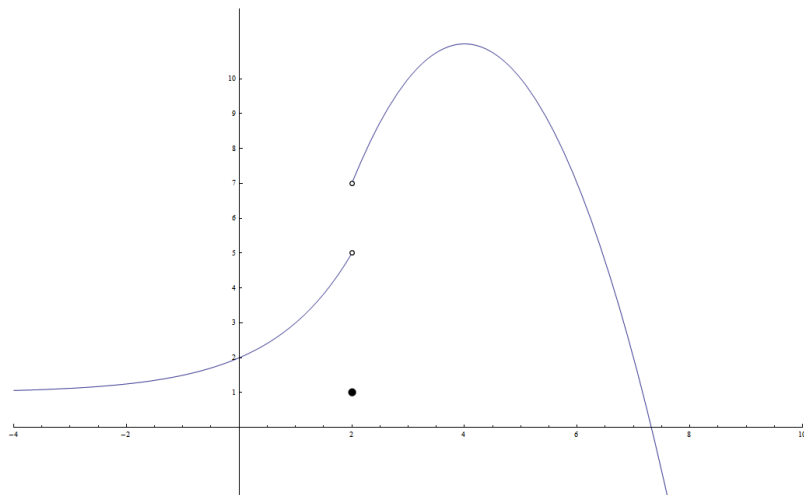
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Read each problem **very carefully** before starting to solve it. Each problem is worth 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. Find the domain of $f(x) = \frac{x - 7}{2x^3 - 5x^2 - 3x}$.

2. Compute and simplify the difference quotient of $f(x) = 3x^2 - 2x$.

3. Based on the figure showing the graph of $y = f(x)$, calculate the quantities.



$$f(2) =$$

$$\lim_{x \rightarrow 2^-} f(x) =$$

$$\lim_{x \rightarrow 2^+} f(x) =$$

$$\lim_{x \rightarrow 2} f(x) =$$

4. Compute the following limits:

(a) $\lim_{x \rightarrow 7} \frac{x+1}{9-x} =$

(b) $\lim_{x \rightarrow 5} \frac{\sqrt{x-1}-2}{x-5} =$