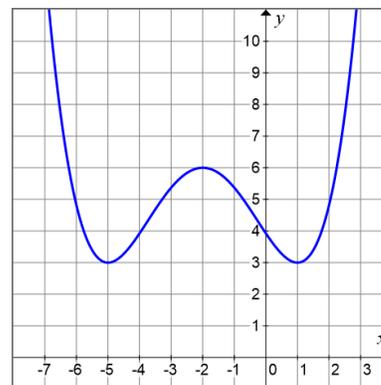


4.3 Worksheet A | Local Extrema and Critical Numbers

1. Write the definition of a critical number, in a complete sentence.

2. Identify the local extrema of the function, and when they occur.



Find the critical numbers of the function.

3. $f(x) = -2x^2 - 12x + 7$

4. $g(x) = x^3 + 6x^2 - 15x + 9$

Find the critical numbers of the function.

5. $f(x) = 12x^{2/3} - 2x$

6. $h(x) = x + \frac{4}{x^2}$

7. Find the critical numbers of $f(x) = \cos 2x + 2\cos x$ within $[0, 2\pi]$.

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1. A critical number is a number in the domain of $f(x)$ such that $f'(c) = 0$ or $f'(c)$ does not exist. 2. There is a local minimum of 3 when x is -5 and 1 . There is a local maximum of 6 when x is -2 .
3. -3 4. -5 and 1