Review Assignment

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Review Assignment

Question 0

Watch the lecture video here.

Did you watch the video? [Type yes or no.]

Question 1

Consider the function $f(x) = \dfrac{9x^3 - 2}{x^2 + 7x}$.

Part a

Graph this function using the window $-5 \leq x \leq 5$ and $-10 \leq y \leq 10$.

Part b

Compute $\lim_{x \to -7^+} f(x)$.

Part c

Compute $f'(x)$.

Part d

Compute $f'(3)$.

Part e

Compute $\int f(x)\,dx$.

Part f

Compute $\int_1^4 f(x)\,dx$.

Question 2

Suppose the function $v(t) = 8t^2 - 2t + 1$ gives the *velocity* at time t of a particle travelling in a straight line.

Part a

If the particle starts out at position 0 when $t = 0$, find the function $p(t)$ that gives the *position* of the particle at time t.

Part b

Find the function $a(t)$, which gives the *acceleration* of the particle at time t.

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Part c

Graph p, v, and a on the same axes with $0 \leq t \leq 4$, using different colors and/or line styles for each.