Formulas or situations requiring formulas:

- Limit definition of derivative
- "Average rate of change" – like finding "average velocity" given **position** or "average acceleration" given **velocity**
- "Average value" – different from average rate. This would be finding average velocity given velocity, avg temp given temp, average acceleration given acceleration, etc.
- Mean Value Theorem
- Fundamental Theorem of Calculus – including how to find f(b) given f(a) and its applications – finding new position, etc.
- Total distance
- Displacement
- Arc length
- Area
- Volumes – disk and washers and around lines other than axes; Cross-sections
- Trapezoidal Rule $[0,1]$ w/ 4 intervals
- LRAM, RRAM, MRAM $[0,2]$ with 4 subint.
- Logistic – finding M and pop. when max rate
- Rolle's Thm
- FTC ex: Given $f'(x)$ and $f(2)=6$. Find $f(7)$
- $\frac{d}{dx}\left[\int_{4x^2}^{x^3}\sqrt{t-6}\,dt\right]$