SOME REVIEW PROBLEMS TO PONDER:

$$\lim_{x \to 5} \frac{25 - x^2}{5 - x}$$

$$\lim_{x \to -\infty} \frac{4x^8 - 2x^6 + 6}{7 + 5x^5 - 2x^8}$$

$$\lim_{h \to 0} \frac{\cos 2(x + h) - \cos 2x}{h}$$

If $f''(x) = (10x - 5)(x + 3)^2$, then how many points of inflection does $f(x)$ have?

If f is a twice-differentiable function and $f(-3) = -2$, $f(0) = 4$, and $f(3) = -2$, then what must be true about f?

If $f(x) = \tan^2(2x + 1)$, then $f'(x) = ?$

If $f(x) = 3x\left(5 + \sqrt{x}\right)$, then $f'(x)$=?

Find $\int \left[3x\left(5 + \sqrt{x}\right)\right] dx$

If $g(x) = \left(2x - f(x)\right)\left(x^2 + h\right)$, then $g'(x) = ?$

Stuff you should have mastered:
Limits, derivatives, Riemann Sums, IVT, EVT, MVT, average rate of change, indefinite integrals, anything to do with extrema, concavity, points of inflection, anything we do during the first semester…