Part I

No Part I this time.

Part II: WeBWorK (due Saturday, December 13, by 11 PM)

Click here for your WeBWorK assignment. Complete the DW 38 WeBWorK assignment.

Note on WeBWorK: While it's not due until Saturday at 11, it's a good idea to do it earlier as part of your review for Friday's Celebration of Learning.

Part III: Homework Problems (due Wednesday, December 17 at the beginning the final period (10:30 AM))

1. Biologists decide to re-introduce 50 wolves to a park. They estimate that the wolf population in the park will be described by the function

$$P(t) = \frac{250}{\left(1 + 4e^{-\frac{t}{3}}\right)},$$

where t is the time in years.

   (a) What is the rate of change of the population at $t = 2$?

   (b) At what point is the wolf population increasing most rapidly?

2. Evaluate the following integrals.

   (a) $\displaystyle\int \frac{2x}{x^2 - 25}\, dx$

   (b) $\displaystyle\int \frac{3\sec^2 x}{6 + 3\tan x}\, dx$

   (c) $\displaystyle\int \frac{\sec x}{\sqrt{\sec x + \tan x}}\, dx$

   (d) $\displaystyle\int \frac{e^{-\sqrt{x}}}{\sqrt{x}}\, dx$

   (e) $\displaystyle\int_e^2 \sec(\pi x)\tan(\pi x)\, dx$

   (f) $\displaystyle\int_{\ln\frac{\pi}{6}}^{\ln\frac{\pi}{2}} 2e^x \cos e^x\, dx$

   (g) $\displaystyle\int_0^{\sqrt{\ln\pi}} 2xe^{x^2} \cos\left(e^{x^2}\right)\, dx$

Friday's Celebration of Learning

Celebration of Learning 4 on Friday will have problems for learning targets D4, D6, D8, D9, A1–5, and I1–8.