Some integrals and other problems you should be able to solve:

8. $\int_1^3 e^{4x}dx$

9. $\int \frac{2}{2-5x}dx$

10. $\int \frac{3}{1+4x^2}dx$

11. $\int \frac{5}{x\sqrt{x^2-1}}+e^{2x}dx$

12. $\int \frac{1+3x}{\sqrt{1-x^2}}dx$

13. $\int \frac{5x^2}{x^3+7}dx$

14. $\int 4xe^{x^2}dx$

15. $\int \frac{3\ln x}{x}dx$

Given info:

$$\frac{d}{dx}\sin^{-1}x=\frac{1}{\sqrt{1-x^2}}$$

$$\frac{d}{dx}\cos^{-1}x=\frac{-1}{\sqrt{1-x^2}}$$

$$\frac{d}{dx}\tan^{-1}x=\frac{1}{x^2+1}$$

$$\frac{d}{dx}\cot^{-1}x=\frac{-1}{x^2+1}$$

$$\frac{d}{dx}\sec^{-1}x=\frac{1}{x\sqrt{x^2-1}}$$

$$\frac{d}{dx}\csc^{-1}x=\frac{-1}{x\sqrt{x^2-1}}$$

16. $\lim_{x\to\infty}\frac{e^{2x}}{x^2}$

17. $\lim_{x\to 0}\frac{\sin^{-1}x}{3x}$

18. Solve for x:

$\ln(x+1)+\ln(2)=7$

19. Solve for x:

$4e^{x+3}=8$