Practice – 1

Once you feel confident with basic integration properties and techniques, complete problems 1 and 2. Check your answers by going to the Solutions tab in Moodle.

Instructions: Answer each of the following practice questions on a separate piece of paper. Step by step solutions are provided under the Solutions tab. You will learn the material more thoroughly if you complete the questions before checking the answers.

1. Find the indefinite integral for the following.

   a. $\int x^{\frac{7}{8}}\,dx$

   b. $\int x^3(2+4x^2)\,dx$

   c. $\int e^{5x-2}dx$

   d. $\int 10e^{5x}\,dx$

   e. $\int \frac{4}{x-1}\,dx$

   f. $\int 5\sin 3x\,dx$

2. Integrate the following.

   a. $\int \left(\frac{6}{x}+4\sin 7x\right)\,dx$

   b. $\int (3e^x+\sec x\tan x)\,dx$

   c. $\int (\sec^2 x-\csc x\cot x)\,dx$

   d. $\int (1+\sin^2 x\csc x)\,dx$

   e. $\int \left(-\cot^2 x\bullet\frac{1}{\sin x\cos^2 x\csc x}\right)\,dx$