Trigonometric Integrals
Demonstration Activity

1) Open the Riemann Sums Demonstration located at
http://demonstrations.wolfram.com/IntegratingOddPowersOfSineAndCosineBySubstitution/

2) First get familiar with the various options. Choose a function. Adjust the slider for n.

3) Describe the technique being demonstrated using your own words.

4) Find $\int \cos^3 x \, dx \; =$

5) Find $\int \sin^7 x \, dx \; =$

6) Using the results from above find: (Show work!)

a) $\int \sin^7(3x) \, dx$

b) $\int \frac{cos^3(e^{-x})}{e^x} dx$

7) Find the following integrals and contrast the different techniques between the two:

a) $\int \sin^6 x \, dx$

b) $\int \sin^7 x \, dx$