Reading Quiz 08 for Calculus A

Name : _____ Student ID # : _____ Score : _____

Read the following online pages
http://tutorial.math.lamar.edu/classes/calcI/IndefiniteIntegrals.aspx
http://tutorial.math.lamar.edu/classes/calcI/ComputingIndefiniteIntegrals.aspx
http://tutorial.math.lamar.edu/classes/calcI/SubstitutionRuleIndefinite.aspx
http://tutorial.math.lamar.edu/classes/calcI/SubstitutionRuleIndefinitePtII.aspx
http://tutorial.math.lamar.edu/classes/calcI/SubstitutionRuleDefinite.aspx

1. What is an anti-derivative of a given fuction f?

2. What is an indefinite integral of a function f?

3. State those 3 properties of the indefinite integral from the 1st online page above.

4. Evaluate each of the following indefinite integrals and definite integrals.

   (a) $\displaystyle\int 3\sqrt[4]{x^3} + \frac{7}{x^5} + \frac{1}{6\sqrt{x}}\,dx$

   (b) $\displaystyle\int \frac{x}{\sqrt{1-4x^2}}\,dx$

   (c) $\displaystyle\int \frac{\cos\sqrt{x}}{\sqrt{x}}\,dx$

   (d) $\displaystyle\int \cot x\,dx$

   (e) $\displaystyle\int_{-2}^{0} 2t^2\sqrt{1-4t^3}\,dt$

   (f) $\displaystyle\int_{-1}^{3} 2(1+w)(2w+w^2)^3\,dw$