EMCF38 – Math 1432, 13209

The answer sheet for this assignment can be found by logging into *CourseWare* at http://www.casa.uh.edu, selecting **Math 1432(13209)**, clicking on the **EMCF** tab at the top of the page, and selecting **EMCF38**.

1. Give the radius of convergence for $\sum_{n=0}^{\infty} x^n$.

   a. ∞
   b. 1
   c. 4/3
   d. 3/2
   e. 2
   f. None of these.

2. Give the radius of convergence for $\sum_{n=0}^{\infty} \frac{x^n}{2^n}$.

   a. ∞
   b. 1
   c. 4/3
   d. 3/2
   e. 2
   f. None of these.

3. Give the radius of convergence for $\sum_{n=0}^{\infty} \cos(n\pi) x^n$.

   a. ∞
   b. 1
   c. 4/3
   d. 3/2
   e. 2
   f. None of these.

4. Give the radius of convergence for the Taylor series for $\cos(x)$ centered at $x = 0$.

   a. ∞
   b. 1
   c. 4/3
   d. 3/2
   e. 2
   f. None of these.

5. Give the radius of convergence for the Taylor series for $\sin(x)$ centered at $x = 0$.
    a. ∞
    b. 1
    c. 4/3
    d. 3/2
    e. 2
    f. None of these.
6. Give the radius of convergence for the Taylor series for e^x centered at $x = 0$.
    a. ∞
    b. 1
    c. 4/3
    d. 3/2
    e. 2
    f. None of these.
7. Give the radius of convergence for the Taylor series for $\frac{1}{1-x}$ centered at $x = 0$.
    a. ∞
    b. 1
    c. 4/3
    d. 3/2
    e. 2
    f. None of these.
8. The radius of convergence for the derivative of a power series is
    a. always the same as the radius of convergence of the power series.
    b. sometimes larger than the radius of convergence of the power series.
    c. sometimes larger than the radius of convergence of the power series.
    d. always ½ of the radius of convergence of the power series.
    e. always twice the radius of convergence of the power series.
    f. None of these.
9. The radius of convergence for an antiderivative of a power series is
    a. always the same as the radius of convergence of the power series.
    b. sometimes larger than the radius of convergence of the power series.
    c. sometimes larger than the radius of convergence of the power series.
    d. always ½ of the radius of convergence of the power series.
    e. always twice the radius of convergence of the power series.
    f. None of these.
10. Give the radius of convergence for the derivative of $\sum_{n=0}^{\infty} x^n$.
    a. 1/2
    b. 1
    c. 4/3
    d. 3/2
    e. 2
    f. None of these.