HW #16 Final Answers

1. $\sum_{n=0}^{\infty} (-1)^n x^{2n}$ $R=1$

2. $\sum_{n=0}^{\infty} \frac{(-1)^n x^{4n+2}}{(16)^{n+1}}$ $R=2$

3. $\sum_{n=0}^{\infty} \frac{(-1)^n x^{4n+3}}{(2n)!}$ $R=\infty$

4. $\sum_{n=0}^{\infty} \frac{(-1)^n 5^{2n+2} x^{2n+3}}{(2n+1)!}$ $R=\infty$

5. $\sum_{n=0}^{\infty} \frac{(-1)^n 7^{2n+1} (2n+4) x^{2n+3}}{2n+1}$ $R=\frac{1}{7}$ STILL

6. $\sum_{n=0}^{\infty} \frac{(-1)^n 7^{2n+1} x^{2n+5}}{(2n+1)(2n+5)} + C$ $R=\frac{1}{7}$ STILL

don't need to solve for C, b/c we don't have a function on the left to test x=0 into.

7. $\sum_{n=0}^{\infty} \frac{(-1)^n 6^{n+1} (n+3) x^{n+2}}{n+1}$ $R=\frac{1}{6}$ STILL

8. $\sum_{n=0}^{\infty} \frac{(-1)^n x^{3n+5}}{n!(3n+5)} + C$ $R=\infty$ STILL

9. $\sum_{n=0}^{\infty} (-1)^{n+1} \cdot n x^{n-1}$ $R=1$ STILL after Differentiation

ok n=1 o.k. too

10. Show Derivation Work

11. $\ln(5-x) = -\sum_{n=0}^{\infty} \frac{x^{n+1}}{5^{n+1}(n+1)} + \ln 5$

12. $\sum_{n=0}^{\infty} \frac{(-1)^n 2^n x^n}{n!}$

13. Show Work

14. e^7

15. e^{-5}

16. e^{-x^4}

17. $\frac{\sqrt{3}}{2}$

18. $e^{3/5}$

19. $\frac{\pi}{4}$

20. $\frac{1}{2}$

21. $e^3 - 1$