

MA 2320: Quiz 7

Name: _____

1. $\sum_{k=1}^{\infty} \frac{k}{2^k}$

2. $\sum_{k=1}^{\infty} \frac{1}{k!}$

3. $\sum_{k=1}^{\infty} \frac{2^k}{k!}$

4. $\sum_{k=1}^{\infty} \frac{k!}{k^k}$

5. $\sum_{k=1}^{\infty} \left(\frac{k}{2k+1} \right)^k$

6. $\sum_{k=1}^{\infty} \left(1 + \frac{1}{k} \right)^{k^2}$

7. $\sum_{k=1}^{\infty} \left(1 - \frac{1}{k} \right)^{k^2}$

8. $\sum_{k=1}^{\infty} (-1)^k \frac{k}{2k+1}$

9. $\sum_{k=1}^{\infty} (-1)^k \frac{k}{2k^2+1}$

10. $\sum_{k=1}^{\infty} (-1)^k \left(1 - \frac{1}{k} \right)^k$

11. Write down the criteria for convergence or divergence the following series types or series tests

- Telescoping
- Geometric
- Divergence test
- Integral Test
- p series
- Limit Comparison Test
- Ratio Test
- Root Test
- Alternating Series Test