

Name: _____

MA 2320 Quiz 6

1. $\int_1^{\infty} \frac{1}{x} dx$

2. $\int_0^1 \frac{1}{x} dx$

3. $\int_0^{\infty} \frac{1}{1+x^2} dx$

4. $\lim_{n \rightarrow \infty} \frac{n^3 + 17n^5}{3n^5 - 11}$

5. $\lim_{n \rightarrow \infty} \sqrt{n+1} \frac{-2n^2 + 4}{\sqrt{2n^5 + 3n^2 + 1}}$

6. $\lim_{n \rightarrow \infty} \left(1 - \frac{3}{n}\right)^n$

7. $\lim_{n \rightarrow \infty} \left(1 - \frac{3}{n}\right)^{n^2}$

8. $\lim_{n \rightarrow \infty} \frac{e^n}{n^2}$

9. $\lim_{n \rightarrow \infty} \frac{e^n}{n!}$

10. $\lim_{n \rightarrow \infty} \frac{\ln(n)}{n^2 + 1}$

11. $\lim_{n \rightarrow \infty} \ln(n+1) - \ln(n)$

12. $\lim_{n \rightarrow \infty} \frac{e^n (n+1)!}{n! e^{n+1}}$

13. $\sum_{n=4}^{\infty} \sqrt{n+1} - \sqrt{n}$

14. $\sum_{n=4}^{\infty} \frac{1}{n} - \frac{1}{n+2}$

15. $\sum_{n=7}^{\infty} \frac{1}{2^n}$

16. $\sum_{n=-1}^{\infty} 3 \frac{2^n}{3^{-n}}$

17. $\sum_{n=4}^{\infty} 3 \frac{2^n}{3^n}$

$$18. \sum_{n=4}^{\infty} \frac{n^3 + 17n^5}{3n^5 - 11}$$

$$19. \sum_{n=4}^{\infty} \left(1 - \frac{3}{n}\right)^n$$