

WebAssign**Hw 22 (11.4): Comparison Tests (Homework)**

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MA 162 Spring 2012, section 321, Spring 2012

Instructor: Jonathan Montano

Current Score : 18 / 20**Due** : Tuesday, March 20 2012 11:55 PM EDT1. 2/2 points | [Previous Answers](#)

SCalcET7 11.4.004.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{n^4}{5n^5 - 3}$$

☐ converges☒ diverges**Need Help?**[Read It](#)[Chat About It](#)2. 2/2 points | [Previous Answers](#)

SCalcET7 11.4.005.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{n+2}{n\sqrt{n}}$$

☐ converges☒ diverges**Need Help?**[Read It](#)[Watch It](#)[Chat About It](#)3. 2/2 points | [Previous Answers](#)

SCalcET7 11.4.007.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{3^n}{1+8^n}$$

☒ converges☐ diverges**Need Help?**[Read It](#)[Watch It](#)[Chat About It](#)

4. 2/2 points | [Previous Answers](#)

SCalcET7 11.4.013.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{\arctan 6n}{n^{2.1}}$$

- ☒ converges
☐ diverges



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SCalcET7 11.4.014.

Determine whether the series converges or diverges.

$$\sum_{n=4}^{\infty} \frac{2\sqrt{n}}{n-3}$$

- ☐ converges
☒ diverges



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SCalcET7 11.4.017.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{4}{\sqrt{n^2 + 9}}$$

- ☐ converges
☒ diverges



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SCalcET7 11.4.020.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \frac{2n + 7^n}{2n + 6^n}$$

- ☒ converges
☐ diverges



Enhanced Feedback

Please try again by comparing the series with the series that is obtained by keeping only the dominating terms in the numerator and denominator. To perform the comparison, you can use the Limit Comparison Test. Another solution would be to use the comparison test to compare the series to either a series whose numerator is smaller and whose denominator is larger, or a series whose numerator is larger and whose denominator is smaller. This can be done by picking the dominating term in one case, and by comparing the linear term to an exponential term in the other case. For either method, use your knowledge about geometric series.

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SCalcET7 11.4.022.

Determine whether the series converges or diverges.

$$\sum_{n=5}^{\infty} \frac{n + 4}{(n + 1)^5}$$

- ☒ converges
☐ diverges



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SCalcET7 11.4.027.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} \left(1 + \frac{2}{n}\right)^4 e^{-5n}$$

☒ converges☐ diverges


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SCalcET7 11.4.031.MI.

Determine whether the series converges or diverges.

$$\sum_{n=1}^{\infty} 2 \sin\left(\frac{3}{n}\right)$$

☐ convergent☒  divergent

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