### Web**Assign**

Hw 21 (11.3): Integral Tests and Estimates of Sums (Homework)

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MA 162 Spring 2012, section 321, Spring 2012

Instructor: Jonathan Montano

**Current Score :** 19.17 / 20 **Due :** Thursday, March 8 2012 11:55 PM EST

1. 1.67/2.5 points | Previous Answers

SCalcET7 11.3.003.

Use the Integral Test to determine whether the series is convergent or divergent.

$$\sum_{n=1}^{\infty} \frac{6}{\sqrt[5]{n}}$$

Evaluate the following integral.

$$\int_{1}^{\infty} \frac{6}{\sqrt[5]{x}} dx$$



Since the integral is 💢 finite, the series is divergent 🧳



**2.** 2.5/2.5 points | Previous Answers

SCalcET7 11.3.004.MI.

Use the Integral Test to determine whether the series is convergent or divergent.

$$\sum_{n=1}^{\infty} \frac{7}{n^4}$$

Evaluate the following integral.

$$\int_{1}^{\infty} \frac{7}{x^4} dx$$

1

Since the integral is w is finite, the series is convergent convergent

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3. 2.5/2.5 points | Previous Answers

SCalcET7 11.3.007.

Use the Integral Test to determine whether the series is convergent or divergent.

$$\sum_{n=1}^{\infty} \frac{n}{n^2 + 8}$$

Evaluate the following integral.

$$\int_{1}^{\infty} \frac{x}{x^2 + 8} dx$$



Since the integral is not  $\checkmark$  finite, the series is divergent



### 4. 2.5/2.5 points | Previous Answers

SCalcET7 11.3.011.

Determine whether the series is convergent or divergent.

$$1 + \frac{1}{8} + \frac{1}{27} + \frac{1}{64} + \frac{1}{125} + \cdots$$
• convergent
• divergent



#### **5.** 2.5/2.5 points | Previous Answers

SCalcET7 11.3.012.

Determine whether the series is convergent or divergent.

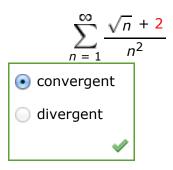
$$1 + \frac{1}{2\sqrt{2}} + \frac{1}{3\sqrt{3}} + \frac{1}{4\sqrt{4}} + \frac{1}{5\sqrt{5}} \cdots$$



# **6.** 2.5/2.5 points | Previous Answers

SCalcET7 11.3.015.

Determine whether the series is convergent or divergent.



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### **7.** 2.5/2.5 points | Previous Answers

SCalcET7 11.3.017.

Determine whether the series is convergent or divergent.

$$\sum_{n=1}^{\infty} \frac{2}{n^2 + 81}$$

convergent
divergent

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## 8. 2.5/2.5 points | Previous Answers

SCalcET7 11.3.021.

Determine whether the series is convergent or divergent.

$$\sum_{n=2}^{\infty} \frac{4}{n \ln n}$$

convergentdivergent

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