

WebAssign

Hw 20 (11.2): Series (Homework)

Yinglai Wang
MA 162 Spring 2012, section 321, Spring 2012
Instructor: Jonathan Montano

Current Score : 19 / 20

Due : Thursday, March 1 2012 11:55 PM EST

1. 2/2 points | [Previous Answers](#)

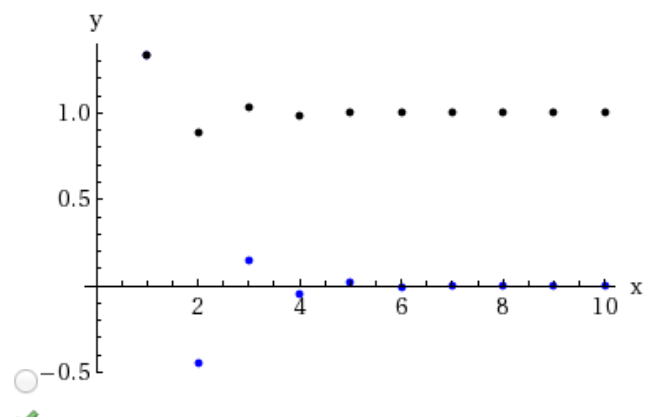
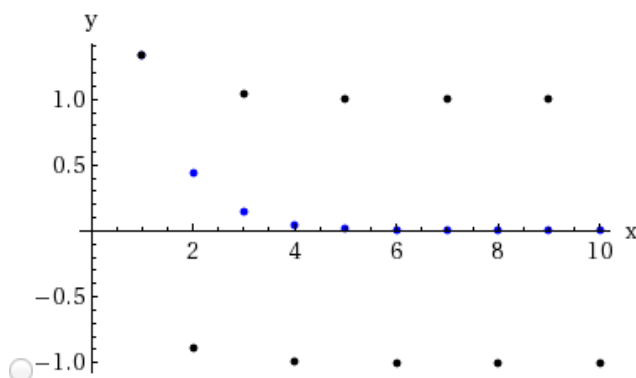
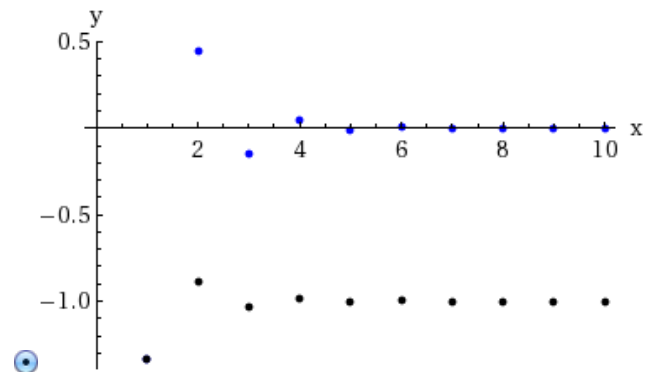
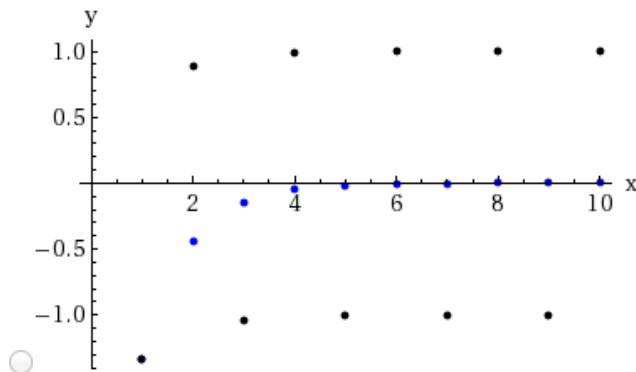
SCalcET7 11.2.009.

Find 10 partial sums of the series. (Round your answers to five decimal places.)

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

n	S_n
1	<input type="text" value="-4/3"/> ✓
2	<input type="text" value="-8/9"/> ✓
3	<input type="text" value="-28/27"/> ✓
4	<input type="text" value="-80/81"/> ✓
5	<input type="text" value="-244/243"/> ✓
6	<input type="text" value="-728/729"/> ✓
7	<input type="text" value="-2188/2187"/> ✓
8	<input type="text" value="-6560/6561"/> ✓
9	<input type="text" value="-19684/19683"/> ✓
10	<input type="text" value="-59048/59049"/> ✓

Graph both the sequence of terms and the sequence of partial sums on the same screen.





Is the series convergent or divergent?

- ☒ convergent
☐ divergent



If it is convergent, find the sum. (If the quantity diverges, enter DIVERGES.)



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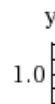
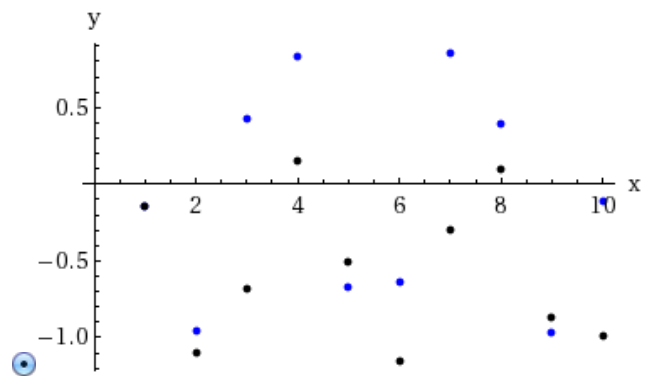
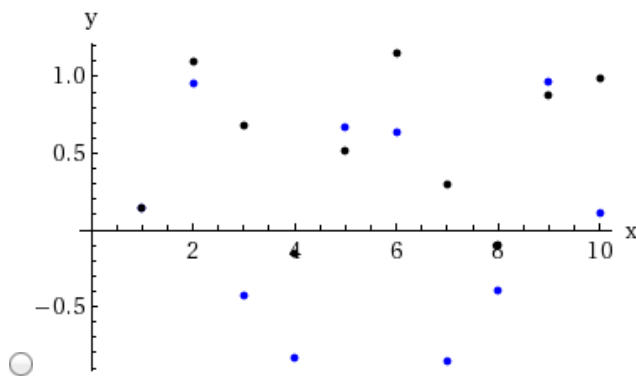
SCalcET7 11.2.010.

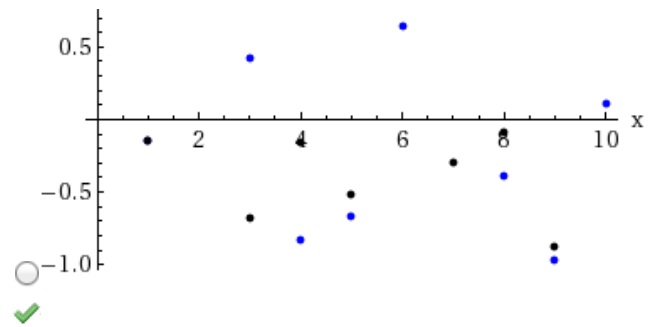
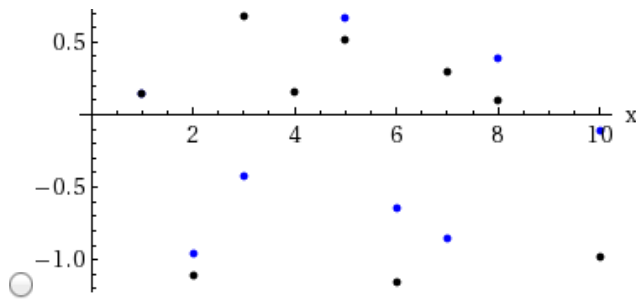
Find 10 partial sums of the series. (Round your answers to five decimal places.)

$$\sum_{n=1}^{\infty} \cos 8n$$

n	s_n
1	-0.1455 ✓
2	-1.1031 ✓
3	-0.6789 ✓
4	0.15524 ✓
5	-0.5117 ✓
6	-1.1518 ✓
7	-0.2986 ✓
8	0.09324 ✓
9	-0.874 ✓
10	-0.9844 ✓

Graph both the sequence of terms and the sequence of partial sums on the same screen.





Does it appear that the series is convergent or divergent?

☐ convergent

☒ divergent



If it is convergent, find the sum. (If the quantity diverges, enter DIVERGES.)



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SCalcET7 11.2.015.

Let $a_n = \frac{3n}{8n+1}$.

(a) Determine whether $\{a_n\}$ is convergent.

☐ convergent

☒ divergent



(b) Determine whether $\sum_{n=1}^{\infty} a_n$ is convergent.

☐ convergent

☒ divergent



Enhanced Feedback

Please try again. For the convergence of the given sequence, you may divide the numerator and denominator by the highest power of n that occurs in the denominator and then use the Limit Laws. For the convergence of the series $\sum_{n=1}^{\infty} a_n$, it is necessary that $\lim_{n \rightarrow \infty} a_n = 0$ according to the Test for Divergence.

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SCalcET7 11.2.018.

Determine whether the geometric series is convergent or divergent.

$$7 + 6 + \frac{36}{7} + \frac{216}{49} + \dots$$

- ☒ convergent
☐ divergent



If it is convergent, find its sum. (If the quantity diverges, enter DIVERGES.)



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SCalcET7 11.2.023.

Determine whether the geometric series is convergent or divergent.

$$\sum_{n=1}^{\infty} \frac{(-8)^{n-1}}{9^n}$$

- ☒ convergent
☐ divergent



If it is convergent, find its sum. (If the quantity diverges, enter DIVERGES.)



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SCalcET7 11.2.024.

Determine whether the geometric series is convergent or divergent.

$$\sum_{n=0}^{\infty} \frac{1}{(\sqrt{17})^n}$$

- ☒ convergent
☐ divergent



If it is convergent, find its sum. (If the quantity diverges, enter DIVERGES.)



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SCalcET7 11.2.029.

Determine whether the series is convergent or divergent.

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

☐ convergent
☒ divergent



If it is convergent, find its sum. (If the quantity diverges, enter DIVERGES.)



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SCalcET7 11.2.031.

Determine whether the series is convergent or divergent.

$$\sum_{n=1}^{\infty} \frac{1 + 2^n}{5^n}$$

☒ convergent
☐ divergent



If it is convergent, find its sum. (If the quantity diverges, enter DIVERGES.)



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SCalcET7 11.2.057.

Find the values of x for which the series converges. (Enter your answer using interval notation.)

$$\sum_{n=1}^{\infty} (-9)^n x^n$$



Find the sum of the series for those values of x .



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SCalcET7 11.2.059.

Find the values of x for which the series converges. (Enter your answer using interval notation.)

$$\sum_{n=0}^{\infty} \frac{(x-3)^n}{7^n}$$



Find the sum of the series for those values of x .



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