You scored 0 out of 100

Question 1

You did not answer the question.

Express in sigma notation.
$$(5)(6) + (6)(7) + (7)(8) + (8)(9) + \ldots + (15)(16)$$

a) ○ $\displaystyle\sum_{k=0}^{9} (k+5)(k+6)$

b) ○ $\displaystyle\sum_{k=0}^{10} (k+5)(k+7)$

c) ○ $\displaystyle\sum_{k=0}^{10} (k+5)(k+6)$

d) ○ $\displaystyle\sum_{k=0}^{11} (k+5)(k+6)$

e) ○ $\displaystyle\sum_{k=1}^{10} (k+5)(k+7)$

Question 2

You did not answer the question.

Which of the following shows both correct sigma notations for
$$\frac{1}{3^{(2)}} + \frac{1}{3^{(3)}} + \ldots + \frac{1}{3^{(9)}}$$

a) ○ $\left[\displaystyle\sum_{k=3}^{7} \frac{1}{3^k}, \displaystyle\sum_{i=0}^{10} \frac{1}{3^{i+2}} \right]$

b) ○ $\left[\displaystyle\sum_{k=3}^{10} \frac{1}{3^{k+2}}, \sum_{i=0}^{7} \frac{1}{3^{j+2}} \right]$

c) ○ $\left[\displaystyle\sum_{k=3}^{10} \frac{1}{3^{k+2}}, \sum_{i=0}^{7} \frac{1}{3^{j}} \right]$

d) ○ $\left[\displaystyle\sum_{k=0}^{7} \frac{1}{3^{k}}, \sum_{i=3}^{10} \frac{1}{3^{j+2}} \right]$

e) ○ $\left[\displaystyle\sum_{k=2}^{9} \frac{1}{3^{k}}, \sum_{i=0}^{7} \frac{1}{3^{j+2}} \right]$

Question 3

You did not answer the question.

Find the sum of the series.

$$\sum_{k=4}^{\infty} \frac{2}{k^2 - k}$$

a) ○ 2

b) ○ $\dfrac{4}{3}$

c) ○ $\dfrac{2}{3}$

d) ○ 1

e) ○ $\dfrac{4}{9}$

Question 4

You did not answer the question.

Find the sum of the series.

$$\sum_{k=0}^{\infty} \frac{(-1)^k}{6^k}$$

a) ◉ $\dfrac{12}{7}$

b) ◉ $\dfrac{18}{7}$

c) ◉ $\dfrac{4}{7}$

d) ◉ $\dfrac{9}{7}$

e) ◉ $\dfrac{6}{7}$

Question 5

You did not answer the question.

Find the sum of the series.

$$\sum_{k=0}^{\infty} \frac{1 - 6^k}{8^k}$$

a) ◉ $-\dfrac{60}{7}$

b) ◉ $-\dfrac{40}{7}$

c) ◉ $-\dfrac{20}{7}$

d) ◉ $-\dfrac{30}{7}$

e) ◉ $-\dfrac{40}{21}$

Question 6

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{k}{6\,k^3 + 3}$$

a) ○ diverges

b) ○ cannot be determined

c) ○ converges

Question 7

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{6}{\sqrt{k+1}}$$

a) ○ cannot be determined

b) ○ diverges

c) ○ converges

Question 8

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{1}{\sqrt{4\,k^2 - 2\,k}}$$

a) ○ converges

b) ○ cannot be determined

c) ○ diverges

Question 9

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{1}{k\,(k+3)\,(k+2)}$$

a) ○ converges

b) ◯ diverges

c) ◯ cannot be determined

Question 10

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{4}{k\,(\ln(k))^2}$$

a) ◯ converges

b) ◯ cannot be determined

c) ◯ diverges

Question 11

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{k^6 - 1}{2\,k^4 + 5}$$

a) ◯ diverges

b) ◯ converges

c) ◯ cannot be determined

Question 12

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{5 + \cos(k)}{\sqrt{k + 5}}$$

a) ◯ converges

b) ◯ diverges

c) ◯ cannot be determined

Question 13

Determine whether the series converges or diverges.

$$\sum \frac{1}{k \, 3^k}$$

a) ○ diverges

b) ○ converges

c) ○ cannot be determined

Question 14

Determine whether the series converges or diverges.

$$\sum \left(\frac{6k}{12k + 2} \right)^k$$

a) ○ cannot be determined

b) ○ converges

c) ○ diverges

Question 15

Determine whether the series converges or diverges.

$$\sum k \left(\frac{7}{9} \right)^k$$

a) ○ diverges

b) ○ converges

c) ○ cannot be determined

Question 16

Determine whether the series converges or diverges.

$$\sum \frac{k!}{27^{10k}}$$

a) ⚪ converges

b) ⚪ cannot be determined

c) ⚪ diverges

Question 17

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{3\,k!}{(k+3)!}$$

a) ⚪ cannot be determined

b) ⚪ converges

c) ⚪ diverges

Question 18

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \left(\frac{k}{k+5} \right)^{k}$$

a) ⚪ converges

b) ⚪ diverges

c) ⚪ cannot be determined

Question 19

You did not answer the question.

Determine whether the series converges or diverges.

$$\sum \frac{5\,(k!)}{k^{k}}$$

a) ⚪ diverges

b) ⚪ converges

c) ◯ cannot be determined

Question 20

Determine whether the series converges absolutely, converges conditionally or diverges.

$$\frac{1}{(4)} - \frac{2}{(5)} + \frac{3}{(6)} - \frac{4}{(7)} + \ldots + (-1)^{k+1}\left(\frac{k}{k+3}\right) + \ldots.$$

a) ◯ cannot be determined

b) ◯ diverges

c) ◯ converges conditionally

d) ◯ converges absolutely

Question 21

Determine whether the series converges absolutely, converges conditionally or diverges.

$$\sum \frac{k^5}{3^k}$$

a) ◯ converges absolutely

b) ◯ cannot be determined

c) ◯ diverges

d) ◯ converges conditionally

Question 22

Determine whether the series converges absolutely, converges conditionally or diverges.

$$\sum \frac{(-1)^k}{3k+4}$$

a) ◯ converges absolutely

b) ◯ converges conditionally

c) ◯ cannot be determined

d) ⚪ diverges

Question 23

You did not answer the question.

Determine whether the series converges absolutely, converges conditionally or diverges.

$$\sum \frac{(-1)^k (2\,k)}{5^k}$$

a) ⚪ diverges

b) ⚪ converges absolutely

c) ⚪ converges conditionally

d) ⚪ cannot be determined

Question 24

You did not answer the question.

Determine whether the series converges absolutely, converges conditionally or diverges.

$$\sum (-1)^k (k)\, e^{-k}$$

a) ⚪ converges absolutely

b) ⚪ cannot be determined

c) ⚪ diverges

d) ⚪ converges conditionally

Question 25

You did not answer the question.

Determine whether the series converges absolutely, converges conditionally or diverges.

$$\sum \frac{(-1)^k \cos(\pi\,k)}{6\,k + 5}$$

a) ⚪ converges conditionally

b) ⚪ cannot be determined

c) ⬤ diverges

d) ⬤ converges absolutely