You scored 0 out of 100

Question 1

You did not answer the question.

Find the interval of convergence.

$$\sum (k+1)\, x^{k+4}$$

a) ○ $(-1, 4)$

b) ○ $(-4, 4)$

c) ○ $(-1, 1)$

d) ○ $[-1, 1]$

e) ○ $[-4, 4]$

Question 2

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{x^k}{(2k+2)!}$$

a) ○ $[-2, 2]$

b) ○ $(-2, 2)$

c) ○ $(-\infty, \infty)$

d) ○ $(-1, 1)$

e) ○ $(0, 2)$

Question 3

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{2^k x^k}{(k+3)^2}$$

a) $\left[-\frac{1}{2}, \frac{1}{2}\right]$

b) $[-3, 3]$

c) $[-2, 2]$

d) $(-1, 1)$

e) $\left(-\frac{1}{2}, \frac{1}{2}\right)$

Question 4

You did not answer the question.

Find the interval of convergence.

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

a) $[-4, 4]$

b) $(-4, 4)$

c) $[-1, 1]$

d) $(-3, 3]$

e) $[-3, 3)$

Question 5

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{x^k}{(k+5)^2\,3^k}$$

a) $[-5, 5]$

b) $(-3, 3)$

c) ⚪ $[-1, 1]$

d) ⚪ $[-3, 3]$

e) ⚪ $(-5, 5)$

Question 6

Find the interval of convergence.

$$\sum \frac{(k-5) \, x^{(k+4)}}{k-4}$$

a) ⚪ $[-4, 4)$

b) ⚪ $[-1, 1)$

c) ⚪ $[-1, 1]$

d) ⚪ $(-4, 4]$

e) ⚪ $(-1, 1)$

Question 7

Find the interval of convergence.

$$\sum \frac{4 \, k^2 \, x^{k+1}}{e^{k+1}}$$

a) ⚪ $[-1, 1]$

b) ⚪ $(-e, e)$

c) ⚪ $[-e, e]$

d) ⚪ $(-1, 1)$

e) ⚪ $(-4, 4)$

Question 8

Find the interval of convergence.

$$\sum \frac{(-1)^k (x-8)^k}{k^k}$$

a) ○ $(-8, 8)$

b) ○ $(-\infty, \infty)$

c) ○ $[-8, 8]$

d) ○ $[-1, 1]$

e) ○ $(-1, 1)$

Question 9

You did not answer the question.

Find the interval of convergence.

$$\sum (k+2)! \, x^{k+3}$$

a) ○ $(-2, 2)$

b) ○ $\{0\}$

c) ○ $\{1\}$

d) ○ $[-1, 1]$

e) ○ $(-1, 1)$

Question 10

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{(-1)^k 6^k x^k}{8^{k+1}}$$

a) ○ $\left[-\frac{1}{6}, \frac{1}{6}\right]$

b) ○ $(-8, 8)$

c) ○ $\left(-\dfrac{3}{4}, \dfrac{3}{4}\right)$

d) ○ $\left[-\dfrac{4}{3}, \dfrac{4}{3}\right]$

e) ○ $\left(-\dfrac{4}{3}, \dfrac{4}{3}\right)$

Question 11

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{(-1)^k\, k!\, (x-2)^k}{(k+1)^3}$$

a) ○ $\{0\}$

b) ○ $\{2\}$

c) ○ $(-2, 2)$

d) ○ $(-1, 1)$

e) ○ $\{1\}$

Question 12

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{(-1)^k\, k^2\, (x+2)^k}{(k+3)!}$$

a) ○ $(-1, 1)$

b) ○ $\{0\}$

c) ○ $[-1, 1]$

d) ○ $\{1\}$

e) ○ $(-\infty, \infty)$

Question 13

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{k^3 \, (x - 10)^k}{e^k}$$

a) ⬤ $[-1, 1]$

b) ⬤ $(-e + 10, e + 10)$

c) ⬤ $[-e + 10, e + 10]$

d) ⬤ $(-e, e)$

e) ⬤ $(-1, 1)$

Question 14

You did not answer the question.

Find the interval of convergence.

$$\sum \frac{(-1)^k \, (k + 4) \, x^k}{2^k}$$

a) ⬤ $(-6, 2)$

b) ⬤ $(-4, 0)$

c) ⬤ $(-2, 2)$

d) ⬤ $(-2, 6)$

e) ⬤ $(-4, 4)$

Question 15

You did not answer the question.

Expand in powers of x.

$$\frac{1}{(1 - x)^7}$$

a) $1 + 7x + \dfrac{7}{2}(8)x^2 + \ldots + \dfrac{(n+6)!\, x^n}{n!\,(6)!} + \ldots$

b) $1 + 14x + \dfrac{7}{4}(8)x^2 + \ldots + \dfrac{(n+6)!\, x^n}{(n+1)!\,(7)!} + \ldots$

c) $1 + 7x + \dfrac{7}{2}(6)x^2 + \ldots + \dfrac{(n+5)!\, x^n}{n!\,(6)!} + \ldots$

d) $1 + 7x + \dfrac{7}{4}(8)x^2 + \ldots + \dfrac{(n+6)!\, x^n}{n!\,(7)!} + \ldots$

e) $1 + 14x + 7(8)x^2 + \ldots + \dfrac{(n+6)!\, x^n}{(n-1)!\,(6)!} + \ldots$

Question 16

You did not answer the question.

Expand in powers of x.

$$\ln(1 - 9x)$$

a) $-9x - \dfrac{1}{3}9^{(2)}x^2 - \dfrac{1}{4}9^{(3)}x^3 - \ldots - \dfrac{9^{n+1}x^{n+1}}{n+2} - \ldots$

b) $9x + \dfrac{9}{2}x^2 + \dfrac{1}{3}9^{(2)}x^3 + \ldots + \dfrac{9^n x^n}{n+1} + \ldots$

c) $-9x - \dfrac{1}{2}9^{(2)}x^2 - \dfrac{1}{3}9^{(3)}x^3 - \ldots - \dfrac{9^{n+1}x^{n+1}}{n+1} - \ldots$

d) $-9x - 9^{(2)}x^2 - \dfrac{1}{2}9^{(3)}x^3 - \ldots - \dfrac{9^{n+1}x^{n+1}}{n} - \ldots$

e) $9x + \dfrac{1}{2}9^{(2)}x^2 + \dfrac{1}{3}9^{(3)}x^3 + \ldots + \dfrac{9^{n+1}x^{n+1}}{n+1} + \ldots$

Question 17

You did not answer the question.

Expand in powers of x.

$$4\sec^2(4x)$$

a) $-4 - 4^{(2)} x^3 - \frac{2}{3} 4^{(3)} x^5 - \frac{17}{45} 4^{(4)} x^7 + \ldots$

b) $4 + 4^{(2)} x^2 + \frac{2}{3} 4^{(3)} x^4 + \frac{17}{45} 4^{(4)} x^6 + \ldots$

c) $-4 - 4^{(3)} x^3 - \frac{2}{3} 4^{(5)} x^5 - \frac{17}{45} 4^{(7)} x^7 + \ldots$

d) $4 + 4^{(3)} x^2 + \frac{2}{3} 4^{(5)} x^4 + \frac{17}{45} 4^{(7)} x^6 + \ldots$

e) $4 + 4^{(3)} x^3 + \frac{2}{3} 4^{(5)} x^5 + \frac{17}{45} 4^{(7)} x^7 + \ldots$

Question 18

You did not answer the question.

Expand in powers of x.

$$\ln(\cos(4x))$$

a) $-\frac{1}{2} 4^{(2)} x^2 - \frac{1}{12} 4^{(3)} x^4 - \frac{1}{45} 4^{(4)} x^6 - \frac{17}{2520} 4^{(5)} x^8 - \ldots$

b) $\frac{1}{2} 4^{(2)} x^2 + \frac{1}{12} 4^{(4)} x^4 + \frac{1}{45} 4^{(6)} x^6 + \frac{17}{2520} 4^{(8)} x^8 + \ldots$

c) $\frac{1}{3} 4^{(2)} x^2 + \frac{2}{15} 4^{(4)} x^4 + \frac{17}{315} 4^{(6)} x^6 + \frac{17}{2520} 4^{(8)} x^8 + \ldots$

d) $-\frac{1}{2} 4^{(2)} x^2 - \frac{1}{12} 4^{(4)} x^4 - \frac{1}{45} 4^{(6)} x^6 - \frac{17}{2520} 4^{(8)} x^8 - \ldots$

e) $-\frac{1}{3} 4^{(2)} x^2 - \frac{2}{15} 4^{(3)} x^4 - \frac{17}{315} 4^{(4)} x^6 - \frac{17}{2520} 4^{(5)} x^8 - \ldots$

Question 19

You did not answer the question.

Expand in powers of x.

$$\frac{6x}{1-x^2}$$

a) $\displaystyle\sum_{k=0}^{\infty}\left(-6\,x^{2\,k}\right)$

b) $\displaystyle\sum_{k=0}^{\infty}\left(-6\,x^{4\,k+1}\right)$

c) $\displaystyle\sum_{k=0}^{\infty}6^{k}\,x^{4\,k+2}$

d) $\displaystyle\sum_{k=0}^{\infty}6\,x^{2\,k-1}$

e) $\displaystyle\sum_{k=0}^{\infty}6\,x^{2\,k+1}$

Question 20

You did not answer the question.

Expand in powers of x.

$$5\,x\,\ln\left(1+x^{6}\right)$$

a) $\displaystyle\sum_{k=1}^{\infty}\frac{5\,(-1)^{k}\,x^{6\,k-1}}{k}$

b) $\displaystyle\sum_{k=1}^{\infty}\frac{(-1)^{k+1}\,5^{k}\,x^{6\,k}}{k}$

c) $\displaystyle\sum_{k=1}^{\infty}\frac{(-1)^{k+1}\,5^{k}\,x^{6\,k-1}}{k}$

d) $\displaystyle\sum_{k=1}^{\infty}\frac{5\,(-1)^{k+1}\,x^{6\,k+1}}{k}$

e) $\displaystyle\sum_{k=1}^{\infty}\frac{5\,(-1)^{k}\,x^{6\,k+1}}{k}$