TaylorSeriesQuestions

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Question Set 1

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Q1. The approximate value of (27.27)^{1/3}
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a)
$$3 + 0.01 - \frac{0.0001}{0.0001} + \dots$$

b)3 +
$$\frac{0.01}{3}$$
 - $\frac{0.0001}{3}$ + .

b)
$$3 + \frac{301}{3} - \frac{30001}{3^2} + ...$$

a)
$$3 + 0.01 - \frac{0.0001}{3} + \dots$$

b) $3 + \frac{0.01}{3} - \frac{0.0001}{3^2} + \dots$
c) $3 + 0.01 - 0.0001 + \dots$
d) $3 - 0.01 + \frac{0.0001}{3} + \dots$

Q2.
$$\int_{-1}^{1} e^{-x^{2}} dx$$
 is a)
$$\sum_{n=0}^{\infty} \frac{(-1)^{n}}{2n+1}$$
 b)
$$2 \sum_{n=0}^{\infty} \frac{(-1)^{n}}{2n+1}$$
 c)
$$2 \sum_{n=0}^{\infty} \frac{(-1)^{n}}{2n-1}$$
 d)
$$\sum_{n=0}^{\infty} \frac{(-1)^{n}}{2n-1}$$

$$2\sum_{n=1}^{\infty} \frac{(-1)^n}{n}$$

a)
$$\sum_{n=0}^{\infty} \frac{2n+1}{(-1)}$$

b)
$$2\sum_{n=0}^{\infty} \frac{(-1)^n}{2n+1}$$

c)
$$2\sum_{n=0}^{\infty} \frac{(-1)^n}{2n-1}$$

$$d) \sum_{n=0}^{\infty} \frac{(-1)^n}{2n-1}$$

Q3. The approximate value of e * cos(1) is

a)1+1+
$$\frac{1}{2}$$
- $\frac{1}{6}$ + $\frac{1}{4}$ - $\frac{1}{1}$

b)1+1-
$$\frac{1}{3}$$
+ $\frac{1}{6}$ - $\frac{1}{4}$ + $\frac{1}{6}$

c)1+1+
$$\frac{1}{3}$$
- $\frac{1}{6}$ + $\frac{1}{4}$ - $\frac{1}{8}$

a) 1 + 1 +
$$\frac{1}{2}$$
 - $\frac{1}{6}$ + $\frac{1}{4}$ - $\frac{1}{12}$
b) 1 + 1 - $\frac{1}{3}$ + $\frac{1}{6}$ - $\frac{1}{4}$ + $\frac{1}{8}$
c) 1 + 1 + $\frac{1}{3}$ - $\frac{1}{6}$ + $\frac{1}{4}$ - $\frac{1}{8}$
d) 1 + 1 - $\frac{1}{2}$ + $\frac{1}{6}$ - $\frac{1}{4}$ + $\frac{1}{12}$

Q4. Approximate value of Π is

a)3.1415926

b)
$$4 - \frac{4}{3} + \frac{4}{5} - \frac{4}{7} + \dots$$

c)
$$\frac{3}{2}(1+\frac{1}{2}+\frac{1}{4}+\frac{1}{8}+...$$

$$\begin{array}{l} \text{b)} 4 - \frac{4}{3} + \frac{4}{5} - \frac{4}{7} + \dots \\ \text{c)} \frac{3}{2} (1 + \frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \dots) \\ \text{d)} 3 (1 - \frac{1}{2} + \frac{1}{4} - \frac{1}{8} + \dots) \end{array}$$

Q5.Find
$$\int_0^x \frac{\sin(t)}{t} dt$$

Q5.Find
$$\int_{0}^{x} \frac{\sin(t)}{t} dt$$
a)
$$\sum_{n=0}^{\infty} (-1)^{n} \frac{x^{2^{n-1}}}{(2n+1)(2n+1)!}$$
b)
$$\sum_{n=0}^{\infty} \frac{x^{2^{n+1}}}{(2n+1)(2n+1)!}$$
c)
$$\sum_{n=0}^{\infty} (-1)^{n} \frac{x^{2^{n+1}}}{(2n+1)(2n+1)!}$$
d)
$$\sum_{n=0}^{\infty} (-1)^{n} \frac{x^{2^{n-1}}}{(2n-1)(2n+1)!}$$

b)
$$\sum_{n=0}^{\infty} \frac{x^{2n+1}}{(2n+1)(2n+1)!}$$

c)
$$\sum_{n=0}^{\infty} (-1)^n \frac{x^{2n+1}}{(2n+1)(2n+1)!}$$

d)
$$\sum_{n=0}^{\infty} (-1)^n \frac{x^{2n-1}}{(2n-1)(2n+1)!}$$

key: a,a,d,(a,b),c