Quiz# 6&7	Name:	Sr. NO.

1 Find the length of the arc of the curve $y = \frac{1}{2}x^2$, **from** $P\left(-1, \frac{1}{2}\right)$, **to** $Q\left(1, \frac{1}{2}\right)$

2 Set up an integral for the area of the surface obtained by rotating the curve

about $y = e^{-x^2}$, $-1 \leq x \leq 1$

3 Determine whether the sequence converges or diverges. If it converges, find the limit.

$$\left\{\frac{(2n-1)!}{(2n+1)!}\right\}$$

4 Find the values of x for which the series converges.

$$\sum_{n=0}^{\infty} \frac{(x-2)^n}{3^n}$$

5 Determine whether the series is convergent or divergent.

a. $$\sum_{n=1}^{\infty} n^2 e^{-n^3}$$

b. $$\sum_{n=1}^{\infty} \frac{1+\cos n}{e^n}$$

c. $$\sum_{n=2}^{\infty} \frac{1}{n\sqrt{n^2-1}}$$