

1. Partial derivative

2. Exponential of a function

3. Both assertions are correct and the reasoning is correct.

4. A norm is useful to compare the “distance” between a function and the additive identity of the function space to which the function belongs.

5.
$$\frac{\left(\int_0^2 yy' dx\right) \left\{ \int_0^2 (2y) h dx \right\} - \left(\int_0^2 y^2 dx\right) \left\{ \int_0^2 (y'h + yh') dx \right\}}{\left(\int_0^2 yy' dx\right)^2}$$

6. $3y^2 - 2a\ddot{y}$

7. A Banach space can have the limit of its converging sequence outside itself.

8. Only (iii) is correct.

9. Both assertions are correct and the reasoning is correct.

10. All of the above

11. 0

12. A norm

13. Linear

14. **All of the above.**

15. $yy'^2 + y^2(y'') = 0$