Answer on Question #45985, Physics, Electromagnetism

From Gauss law which of the following is NOT correct?

- The outward flux of electric field through an enclosed surface is proportional to the electric charges enclosed
- The field at a point outside a spherically symmetric charge is the same as the electric field at the same point due to a point charge at its centre.
- The electric flux through a Gaussian surface is a vector product of the electric field and a unit vector perpendicular to and outward from the surface
- The total electric flux through a cylinder placed in an electric field with its axis parallel to the field is zero

Solution

This is not correct: The electric flux through a Gaussian surface is a vector product of the electric field and a unit vector perpendicular to and outward from the surface

Electric flux is scalar.