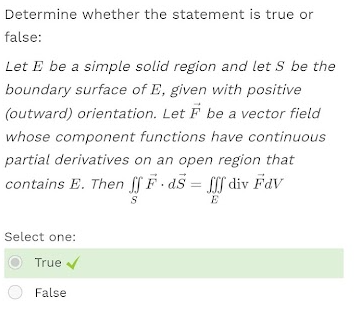
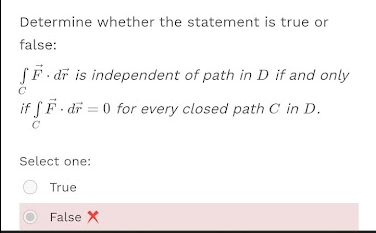
Let E be a simple solid region and let S be the boundary surface of E, given with positive (outward) orientation. Let F be a vector field whose component functions have continuous partial derivatives on an open region that contains E.



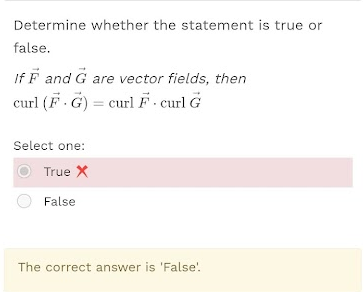
Determine whether the statement is true or false:

Is independent of path in D if and only if

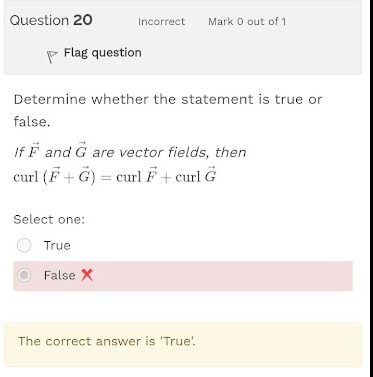


Determine whether the statement is true or false

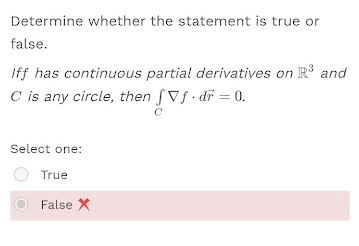
If F and G are vector fields, then curl (F\*G)

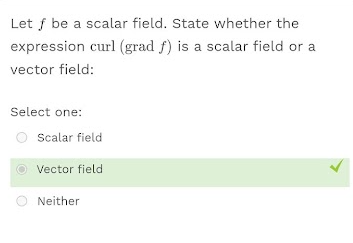


Determine whether the statement is true or false   
If F and G are vector fields, then curl (F+G)



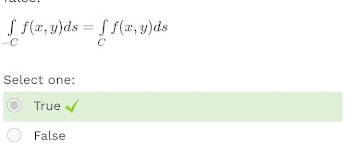
Determine whether the statement is true or false  
If f has continuous partial derivatives on R^3 and C is any circle



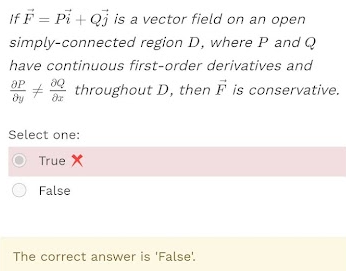
Let f be a scalar field. State whether the expression curl (grad f) is a scalar or a vector field. 

Determine whether the statement is true or false

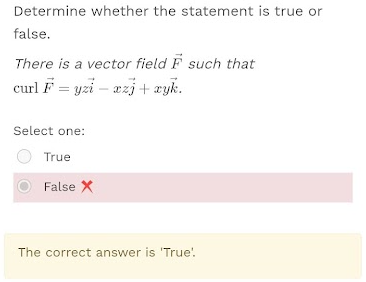
Integral -c



If F=Pi+Qj is a vector field on an open simply connected region D, where P and Q have continuous first-order derivatives

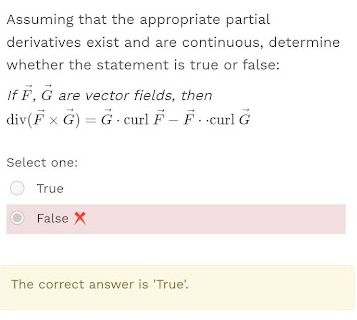


There is a vector field F such that curl F=yzi-xzj+xyk

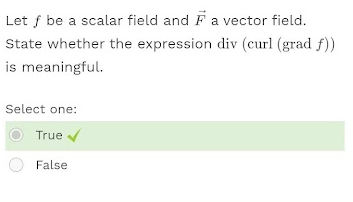


Assuming that the appropriate partial derivatives exist and are continuous, determine whether the statement is true or false:

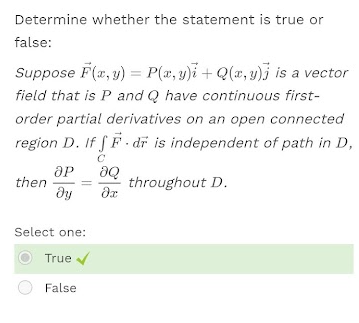
If F, G are vector fields, then div



Let f be a scalar field and F a vector field. State whether the expression div(curl(grad f)) is meaningful

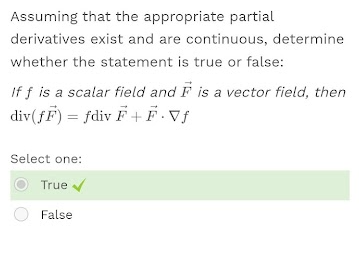


Suppose F(x,y) is a vector field that is P and Q have continuous first-order partial derivatives on an open connected region D.

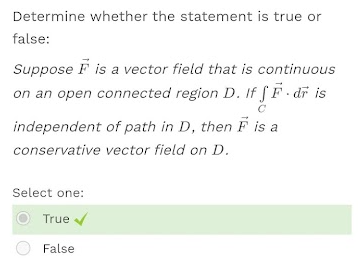


Assuming that the appropriate partial derivatives exist and are continuous, determine whether the statement is true or false.

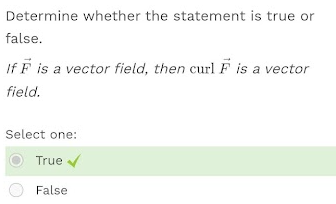
If f is a scalar field and F is a vector field, then div(fF)

is

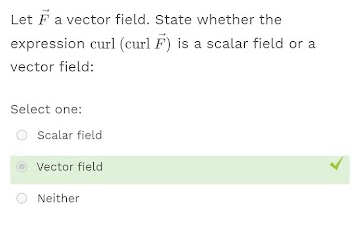
Suppose F is a vector field that is continuous on an open connected region D.



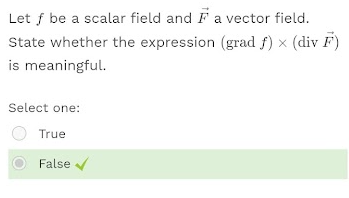
If F is a vector field, then curl F is a vector field



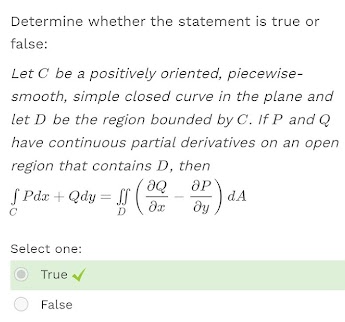
Let F a vector field. State whether the expression curl(curl F) is a scalar or a vector field.



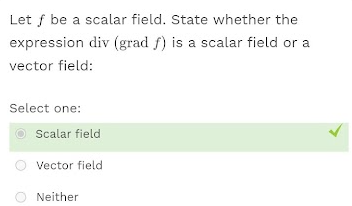
Let f be a scalar field and F a vector field. State whether the expression (grad f)\*(div F) is meaningful



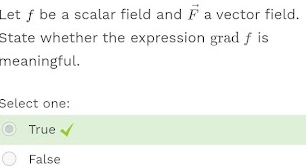
Let C be a positively oriented, piecewise-smooth, simple closed curve in the plane and let D be the region bounded by C. If P and Q have continuous partial derivatives on an open region that contains D then



Let f be a scalar field. State whether the expression div(grad f) is a scalar field or a vector field.

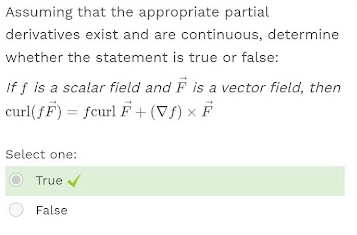


Let f be a scalar field and F a vector field. State whether the expression grad f is meaningful.

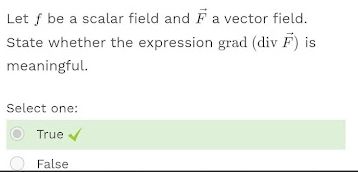


Assuming that the appropriate partial derivatives exist and are continuous, determine whether the statement is true or false

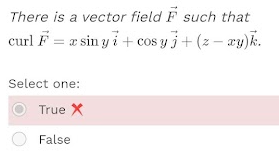
If f is a scalar field and F is a vector field, then curl (fF)=



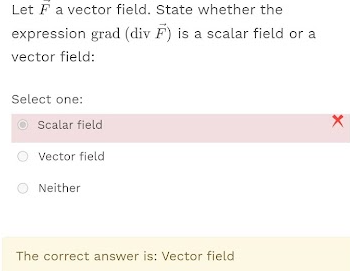
Let f be a scalar field and F a vector field. State whether the expression grad (div F) is meaningful



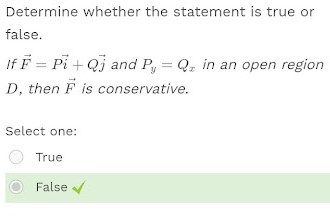
There is a vector field F such that curl F=xsinyi+cosyj+(z-xy)k



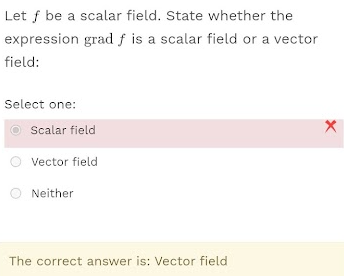
Let F a vector field. State whether the expression grad (div F) is a scalar field or a vector field



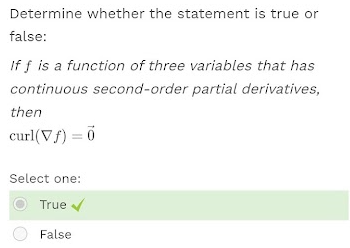
If F=Pi+Qj and Py=Qx in an open region D, then F is conservative



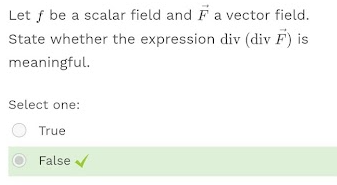
let f be a scalar field. state whether the expression grad f is a scalar field or a vector field



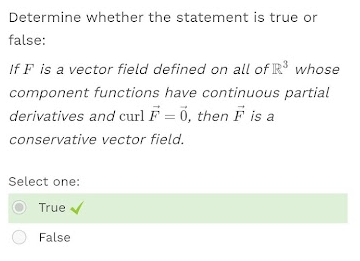
If f is a function of three variables that has continuous second-order partial derivatives, then curl=0



Let f be a scalar field and F a vector field. State whether the expression div (div F) is meaningful

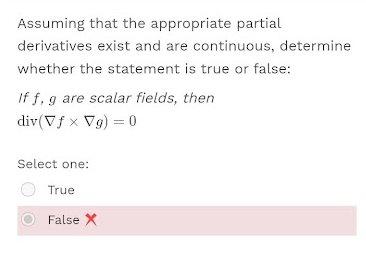


If F is a vector field defined on all of R^3 whose component functions have continuous partial derivatives and curl F=0, then F is a conservative vector field



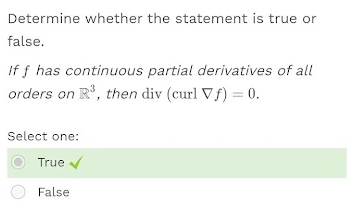
Assuming that the appropriate partial derivatives exist and are continuous, determine whether the statement is true or false

If f, g are scalars fields, then div (deltaf\*deltag)=0

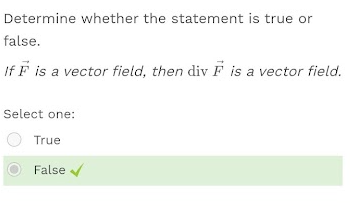


Determine whether the statement is true or false

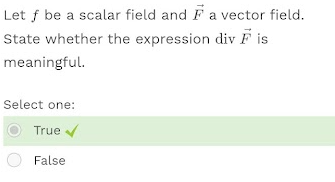
If f has continuous partial derivatives of all orders on R^3, then div (curldeltaf)=0



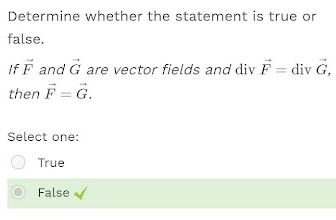
If F is a vector field, then div F is a vector field



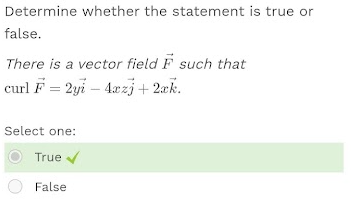
Let f be a scalar field and F a vector field. State whether the expression div F is meaningful



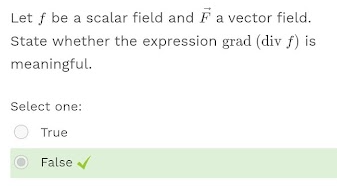
If F and G are vector fields and div F= div G, then F=G



There is a vector field F such that curl F=2yi-4xzj+2xk

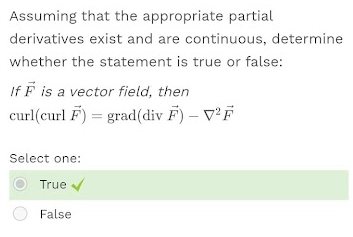


Let f be a scalar field and F a vector field. State whether the expression grad (div f) is meaningful

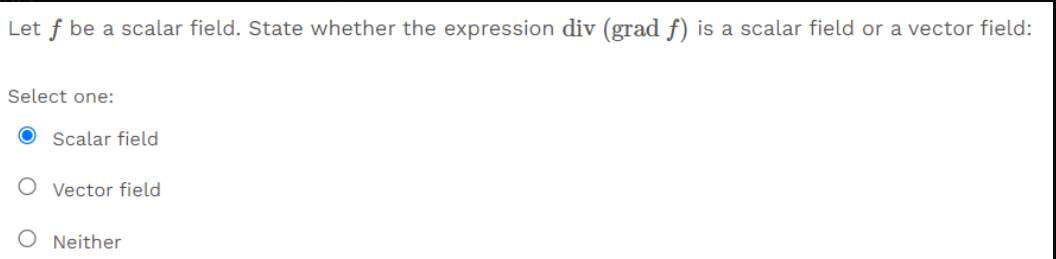


Assuming that the appropriate partial derivatives exist and are continuous, determine whether the statement is true or false

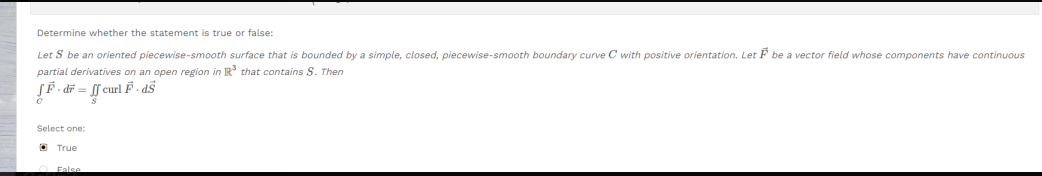
If F is a vector field, then curl(curl F)=grad(div F)-delta^2F

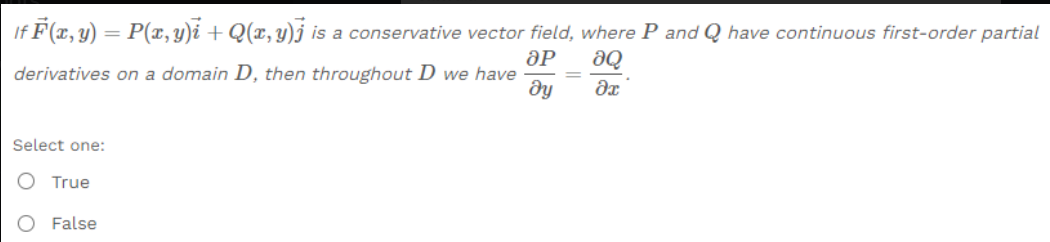


Let f be a scalar field. State whether the expression div (grad f) is a scalar field or a vector field.



Let S be an oriented piecewise-smooth surface that is bounded by a simple, closed, piecewise-smooth



Is a conservative vector field, where P and Q have continuous first-order partial derivatives 

There is a vector field F such that curl F=xi+yj+zk . **False**

