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{ \\\\varphi \\\\left( y \\\\right) d x + 2 x y d y } { 2 x ^ { 2 } + y ^ { 4 } }$$的值恒为同一常数(I)证明:对右半平面x>0内的任意分段光滑简单闭曲线C,有(Ⅱ)求函数φ(y)的表达式.(20)(本题满分9分)已知二次型(I)求a的值;(Ⅱ)求正交变换 把$$f \\\\left( x \_ { 1 } , x \_ { 2 } , x \_ { 3 } \\\\right)$$化成标准形;$$f \\\\left( x \_ { 1 } , x \_ { 2 } , x \_ { 3 } \\\\right) = \\\\left( 1 - a \\\\right) x \_ { 1 } ^ { 2 } + \\\\left( 1 - a \\\\right) x \_ { 2 } ^ { 2 } + 2 x \_ { 3 } ^ { 2 } + 2 \\\\left( 1 + a \\\\right) \_ { 1 } x \_ { 2 }$$的秩为2.x=Qy,(Ⅲ)求方程$$f \\\\left( x \_ { 1 } , x \_ { 2 } , x \_ { 3 } \\\\right) = 0$$的解.(21)(本题满分9分)已知3阶矩阵A的第一行是(a,b,c),a,b,c不全为零,矩阵B =(k为常数),且AB=O,求线性方程组Ax=0的通解.(22)(本题满分9分)设二维随机变量(X,Y)的概率密度为f(x,为f(x,y)={求:(I)(X,Y)的边缘概率密度$$f \_ { x } \\\\left( x \\\\right) , f \_ { Y } \\\\left( y \\\\right) 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