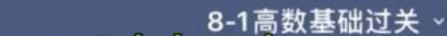


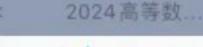
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高数8-2基础..

























$$(1) \lim_{(x,y)\to(0,0)} \frac{xy}{\sqrt{2-e^{xy}}-1};$$

$$= \lim_{(x,y)\to(0,0)} \frac{xy}{\sqrt{2-e^{xy}}-1}$$

$$= \lim_{(x,y)\to(0,0)} \frac{xy}{1-e^{xy}}$$

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$$= \lim_{(x,y)\to(0,0)} \frac{xy}{1-e^{xy}}$$

(3)
$$\lim_{(x,y)\to(0,0)} \frac{x+y}{x-y}$$
; $\mathbb{R} \oplus \mathbb{R} \times \mathbb{R} \to 0$
 $\lim_{x\to 0} \frac{x+kx}{x-kx} = \lim_{x\to 0} \frac{1+k}{1-k} (\sqrt{10}) \mathbb{R} \times \mathbb{R} \to 0$
 $\sqrt{10}$

(2)
$$\lim_{(x,y)\to(0,0)} \frac{1-\cos(x^2+y^2)}{(x^2+y^2)e^{x^2y^2}};$$
= $\lim_{(x,y)\to(0,0)} \frac{1}{(x^2+y^2)} \frac{(x^2+y^2)e^{x^2y^2}}{x^2+y^2};$
= $\lim_{(x,y)\to(0,0)} \frac{1}{x^2+y^2} \frac{(x^2+y^2)}{x^2+y^2}$

$$\frac{1}{(x,y)\to(0,0)} \frac{1}{x^{2}y^{2}+(x-y)^{2}};$$

$$\frac{1}{(x,y)\to(0,0)} \frac{x^{2}\cdot x^{2}}{x^{2}\cdot x^{2}+(x-x)^{2}} = \lim_{x\to 0} \frac{x^{4}}{x^{4}} = \lim_{x\to 0} \frac{x^{4}$$

2.计算下列偏导数

$$\frac{3\lambda}{3x} = \frac{1}{\tan \frac{x}{y}} \cdot \sec \frac{x}{y} \cdot \frac{1}{y} = \frac{1}{y \sin \frac{x}{y}}$$

$$\frac{3\lambda}{3y} = \frac{1}{\tan \frac{x}{y}} \cdot \sec \frac{x}{y} \cdot \frac{1}{y} = \frac{1}{y \sin \frac{x}{y}}$$

$$\frac{3\lambda}{3y} = \frac{1}{\tan \frac{x}{y}} \cdot \sec \frac{x}{y} \cdot \frac{1}{y} = \frac{1}{y \sin \frac{x}{y}}$$

$$\frac{3\lambda}{3y} = \frac{1}{x^2} \cdot \frac{3\lambda}{3y} = \frac{1}{x^2} \cdot \frac{3\lambda$$

$$(2) z = (1+xy)^y$$

$$\frac{\lambda^2}{\lambda^2} = y(1+xy)^y \cdot y$$

$$\frac{\lambda^2}{\lambda^2} = (1+xy)^y \cdot [\ln(1+xy) + \frac{xy}{1+xy}]$$

(4)设
$$T = 2\pi$$
, $\frac{1}{g}$, 则 $\frac{\partial T}{\partial I} + g\frac{\partial T}{\partial g} = \frac{1}{g}$.

$$\frac{\partial T}{\partial U} = 2 \times (\frac{1}{g})^{\frac{1}{g}} = \frac{1}{g} \cdot (\frac{1}{g})^{\frac{1}{g}} \cdot (\frac{1}{g})^{\frac{1}{g}} = \frac{1}{g} \cdot \frac{1}{g} \cdot \frac{1}{g} \cdot \frac{1}{g} = \frac{1}{g} \cdot \frac{1}{g} \cdot \frac{1}{g} \cdot \frac{1}{g} \cdot \frac{1}{g} = \frac{1}{g} \cdot \frac{$$

(1)
$$\Re z = e^{-\left(\frac{1}{x} + \frac{1}{y}\right)}$$
, $\Im x^2 \frac{\partial z}{\partial x} + y^2 \frac{\partial z}{\partial y} = \underline{\qquad \geq \qquad }$.

(2) 设
$$f(x, y) = x + (y - 1) \arcsin \sqrt{\frac{x}{y}}$$
,则

$$f_x(x,1) = \underline{\hspace{1cm}}.$$

1/3

(1)
$$\partial_t z = e^{-\left(\frac{1}{x} + \frac{1}{y}\right)}$$
, $\partial_t z = \frac{\partial z}{\partial x} + y^2 \frac{\partial z}{\partial y} = \frac{2}{2}$.
(2) $\partial_t z = e^{-\left(\frac{1}{x} + \frac{1}{y}\right)}$, $\partial_t z = e^{-\left(\frac{1}{x} + \frac{1}{y}\right)}$. $\partial_t z = e^{-\left(\frac{1}{x} + \frac{1}{y}\right)}$.



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4.设 $f(x, y, z) = xy^2 + yz^2 + zx^2$, 求 $f_{xx}(0,0,1)$, $f_{xz}(1,0,2)$, $f_{yz}(0,-1,0)$ 及 $f_{zzx}(2,0,1)$.

$$f_{x} = y^{2} + 2 \ge x$$
 $f_{xx} = 2 \ge -2$ $f_{y} = -2xy + 2^{2}$ $f_{y} \ge -2 \ge -2$ $f_{z} = 2y \ge -2$ $f_{z} = 2y \ge -2$ $f_{z} = 2y \ge -2$

(1)
$$z = \frac{y}{\sqrt{x^2 + y^2}}$$
 (2) $u = x^{yz}$ $dx = x^{yz$

7.求函数
$$z = \frac{y}{x} + 2$$
、 $y = 1$, $\Delta x = 0.1$, $\Delta y = -0.2$ 时的全墙里和全微分.

(本学 は、 $\Delta z = \frac{y + \Delta y}{x + \Delta x} - \frac{y}{x} = \frac{y - \Delta z}{x + 0.1} - \sum_{i=1}^{n} 2^{i-1}$)

(本学 は、 $\Delta z = \frac{y + \Delta y}{x + \Delta x} - \frac{y}{x} = \frac{y - \Delta z}{x + 0.1} - \sum_{i=1}^{n} 2^{i-1}$)

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(本学 は、 $\Delta z = \frac{y + \Delta y}{x + \Delta x} - \frac{y}{x + \Delta y} = \frac{y - \Delta z}{x + \Delta y} - \frac{y}{x + \Delta y}$

- ① f(x,y) 在点 (x_0,y_0) 连续;
- 理读习河城 马避灵 ② $f_x(x,y)$ 、 $f_y(x,y)$ 在点 (x_0,y_0) 连续;
- ③ f(x,y) 在点 (x_0,y_0) 可微分;
- ④ $f(x_0, y_0)$ 、 $f_v(x_0, y_0)$ 存在.

若用 $P \Rightarrow Q$,表示可由性质P推出性质Q,则下列四个选项中正确的是().

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9. (08-3) 已知 $f(x,y) = e^{\sqrt{x^2 + y^4}}$,则
(A) $f_x'(0,0), f_y'(0,0)$ 都存在.

- (B) $f_x'(0,0)$ 不存在, $f_y'(0,0)$ 存在.
- (C) $f_x'(0,0)$ 存在, $f_y'(0,0)$ 不存在.
- (D) $f_{x}'(0,0), f_{y}'(0,0)$ 都不存在.

$$f'_{x(0,0)} = \lim_{x \to 0} \frac{f(x,0) - f(0,0)}{x - 0}$$

$$= \lim_{x \to 0} \frac{e^{|x|} - 1}{x} i \pi dx$$



10. (07-2) 二元函数 f(x,y) 在点 (0,0) 处可微的一个充分条件是

- (A) $\lim_{(x,y)\to(0,0)} [f(x,y)-f(0,0)] = 0$.
 - (B) $\lim_{x\to 0} \frac{[f(x,0)-f(0,0)]}{x} = 0$, The Time

$$\mathbb{E}\lim_{y\to 0}\frac{\big[f(0,y)-f(0,0)\big]}{y}=0.$$

- (c) $\lim_{(x,y)\to(0,0)} \frac{f(x,y)-f(0,0)}{\sqrt{x^2+y^2}} = 0$. C. (3) $\Rightarrow f_{\times}(0,0) = 0$ $\Rightarrow f_{\times}(0,0) = 0$
- (D) $\lim_{x\to 0} [f'_x(x,0) f'_x(0,0)] = 0$.
- 且 $\lim_{y\to 0} [f_y'(0,y) f_y'(0,0)] = 0$.

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