{'headers': {'date': 'Sun, 14 Apr 2024 10:07:49 GMT', 'content-type': 'application/json;charset=utf-8', 'content-length': '14426', 'connection': 'keep-alive', 'keep-alive': 'timeout=25', 'vary': 'Accept-Encoding', 'access-control-allow-origin': '\*', 'access-control-expose-headers': '\*', 'x-acs-request-id': '82A5AE7F-549C-59F5-9F75-45159FC8C89E', 'x-acs-trace-id': 'c1d5becaf267be683a12df6a1fafe8fc', 'etag': '1EYxDhzyfGtVK54k54PU/Lg7'}, 'statusCode': 200, 'body': {'Data': '{"algo\_version":"","doc\_layout":[{"layout\_type":"text","pos":[{"x":76,"y":175},{"x":76,"y":380},{"x":1120,"y":380},{"x":1120,"y":175}]},{"layout\_type":"text","pos":[{"x":79,"y":390},{"x":79,"y":435},{"x":978,"y":435},{"x":978,"y":390}]},{"layout\_type":"text","pos":[{"x":80,"y":861},{"x":80,"y":979},{"x":785,"y":979},{"x":785,"y":861}]},{"layout\_type":"text","pos":[{"x":79,"y":1200},{"x":79,"y":1242},{"x":435,"y":1242},{"x":435,"y":1200}]},{"layout\_type":"text","pos":[{"x":80,"y":669},{"x":80,"y":788},{"x":1572,"y":788},{"x":1572,"y":669}]},{"layout\_type":"text","pos":[{"x":78,"y":810},{"x":78,"y":852},{"x":489,"y":852},{"x":489,"y":810}]},{"layout\_type":"text","pos":[{"x":77,"y":606},{"x":77,"y":645},{"x":399,"y":645},{"x":399,"y":606}]},{"layout\_type":"text","pos":[{"x":78,"y":125},{"x":78,"y":164},{"x":399,"y":164},{"x":399,"y":125}]},{"layout\_type":"text","pos":[{"x":79,"y":498},{"x":79,"y":540},{"x":802,"y":540},{"x":802,"y":498}]},{"layout\_type":"text","pos":[{"x":78,"y":1521},{"x":78,"y":1559},{"x":684,"y":1559},{"x":684,"y":1521}]},{"layout\_type":"text","pos":[{"x":72,"y":1251},{"x":72,"y":1411},{"x":1526,"y":1411},{"x":1526,"y":1251}]},{"layout\_type":"text","pos":[{"x":77,"y":1744},{"x":77,"y":1786},{"x":999,"y":1786},{"x":999,"y":1744}]},{"layout\_type":"text","pos":[{"x":556,"y":1054},{"x":556,"y":1134},{"x":1079,"y":1134},{"x":1079,"y":1055}]},{"layout\_type":"text","pos":[{"x":78,"y":445},{"x":78,"y":486},{"x":537,"y":486},{"x":537,"y":445}]},{"layout\_type":"text","pos":[{"x":78,"y":1467},{"x":78,"y":1507},{"x":419,"y":1507},{"x":419,"y":1467}]},{"layout\_type":"text","pos":[{"x":79,"y":995},{"x":79,"y":1040},{"x":793,"y":1040},{"x":793,"y":995}]},{"layout\_type":"text","pos":[{"x":653,"y":1577},{"x":653,"y":1733},{"x":995,"y":1733},{"x":995,"y":1577}]},{"layout\_type":"text","pos":[{"x":80,"y":1566},{"x":80,"y":1742},{"x":994,"y":1742},{"x":994,"y":1566}]},{"layout\_type":"text","pos":[{"x":78,"y":499},{"x":78,"y":589},{"x":802,"y":589},{"x":802,"y":499}]}],"doc\_sptext":[{"layout\_type":"bold","pos":[{"x":80,"y":609},{"x":80,"y":644},{"x":398,"y":644},{"x":398,"y":609}]},{"layout\_type":"bold","pos":[{"x":84,"y":1470},{"x":84,"y":1505},{"x":416,"y":1505},{"x":416,"y":1470}]},{"layout\_type":"bold","pos":[{"x":81,"y":127},{"x":81,"y":162},{"x":398,"y":162},{"x":398,"y":127}]},{"layout\_type":"bold","pos":[{"x":81,"y":1204},{"x":81,"y":1238},{"x":434,"y":1238},{"x":434,"y":1204}]}],"doc\_subfield":[{"layout\_type":"single","pos":[{"x":67,"y":100},{"x":67,"y":1787},{"x":1582,"y":1787},{"x":1582,"y":100}]}],"figure":[{"type":"subject\_pattern","x":1151,"y":185,"w":421,"h":366,"box":{"x":0,"y":0,"w":0,"h":0,"angle":-90},"points":[{"x":1151,"y":185},{"x":1572,"y":185},{"x":1572,"y":551},{"x":1151,"y":551}]},{"type":"subject\_big\_bracket","x":112,"y":1254,"w":340,"h":144,"box":{"x":0,"y":0,"w":0,"h":0,"angle":-90},"points":[{"x":112,"y":1254},{"x":452,"y":1254},{"x":452,"y":1398},{"x":112,"y":1398}]},{"type":"subject\_question","x":0,"y":0,"w":0,"h":0,"box":{"x":825,"y":359,"w":388,"h":1511,"angle":-90},"points":[{"x":69,"y":166},{"x":1579,"y":166},{"x":1579,"y":553},{"x":69,"y":553}]},{"type":"subject\_question","x":0,"y":0,"w":0,"h":0,"box":{"x":813,"y":882,"w":432,"h":1513,"angle":-90},"points":[{"x":57,"y":667},{"x":1568,"y":667},{"x":1568,"y":1097},{"x":57,"y":1097}]}],"height":2339,"orgHeight":2339,"orgWidth":1654,"page\_id":0,"page\_title":"","part\_info":[{"part\_title":"九、(本题满分10分)","pos\_list":[[{"x":75,"y":129},{"x":1572,"y":128},{"x":1572,"y":551},{"x":76,"y":551}]],"subject\_list":[{"index":0,"type":15,"num\_choices":0,"prob":0,"text":"有一平底容器,其内侧壁是由曲线x=φ(y)(y≥0)绕y轴旋转而成的旋转曲面(如图),容器的底面圆的半径为2m.根据设计要求,当以$$3 m ^ { 3 } / \\\\min$$的速率向容器内注入液体时,液面的面积将以$$\\\\pi m ^ { 2 } / \\\\min i n$$的速率均匀扩大(假设注入液体前,容器内无液体).(1)根据t时刻液面的面积,写出t与φ(y)之间的关系式;(2)求曲线x=φ(y)的方程.(注:m表示长度单位米, min表示时间单位分.)","figure\_list":[[{"x":1151,"y":185},{"x":1572,"y":185},{"x":1572,"y":551},{"x":1151,"y":551}]],"table\_list":[],"answer\_list":[[{"x":0,"y":166},{"x":1654,"y":166},{"x":1654,"y":656},{"x":0,"y":656}]],"pos\_list":[[{"x":69,"y":166},{"x":1579,"y":166},{"x":1579,"y":553},{"x":69,"y":553}]],"element\_list":[{"type":0,"text":"有一平底容器,其内侧壁是由曲线x=φ(y)(y≥0)绕y轴旋转而成的旋转曲面(如图),容器的底面圆的半径为2m.根据设计要求,当以$$3 m ^ { 3 } / \\\\min$$的速率向容器内注入液体时,液面的面积将以$$\\\\pi m ^ { 2 } / \\\\min i n$$的速率均匀扩大(假设注入液体前,容器内无液体).","pos\_list":[[{"x":75,"y":177},{"x":1117,"y":176},{"x":1117,"y":372},{"x":76,"y":374}]],"content\_list":[{"type":1,"prob":95,"string":"有一平底容器,其内侧壁是由曲线","option":"","pos":[{"x":77,"y":182},{"x":598,"y":181},{"x":598,"y":213},{"x":77,"y":213}]},{"type":1,"prob":99,"string":"x=φ(y)(y≥0)","option":"","pos":[{"x":598,"y":178},{"x":863,"y":176},{"x":863,"y":218},{"x":598,"y":220}]},{"type":1,"prob":99,"string":"绕y轴旋转而成","option":"","pos":[{"x":863,"y":181},{"x":1117,"y":181},{"x":1117,"y":212},{"x":863,"y":212}]},{"type":1,"prob":99,"string":"的旋转曲面(如图),容器的底面圆的半径为2m.根据设计要求,当以","option":"","pos":[{"x":78,"y":235},{"x":1115,"y":234},{"x":1115,"y":265},{"x":78,"y":266}]},{"type":2,"prob":97,"string":"$$3 m ^ { 3 } / \\\\min$$","option":"","pos":[{"x":75,"y":284},{"x":205,"y":284},{"x":205,"y":324},{"x":76,"y":324}]},{"type":1,"prob":99,"string":"的速率向容器内注入液体时,液面的面积将以","option":"","pos":[{"x":205,"y":289},{"x":930,"y":288},{"x":930,"y":319},{"x":205,"y":320}]},{"type":2,"prob":93,"string":"$$\\\\pi m ^ { 2 } / \\\\min i n$$","option":"","pos":[{"x":930,"y":283},{"x":1072,"y":284},{"x":1072,"y":324},{"x":930,"y":324}]},{"type":1,"prob":99,"string":"的","option":"","pos":[{"x":1072,"y":288},{"x":1115,"y":288},{"x":1115,"y":319},{"x":1072,"y":319}]},{"type":1,"prob":98,"string":"速率均匀扩大(假设注入液体前,容器内无液体).","option":"","pos":[{"x":76,"y":342},{"x":825,"y":341},{"x":825,"y":372},{"x":77,"y":374}]}]},{"type":0,"text":"(1)根据t时刻液面的面积,写出t与φ(y)之间的关系式;","pos\_list":[[{"x":78,"y":396},{"x":975,"y":392},{"x":975,"y":433},{"x":79,"y":437}]],"content\_list":[{"type":1,"prob":99,"string":"(1)根据t时刻液面的面积,写出t与","option":"","pos":[{"x":78,"y":397},{"x":655,"y":394},{"x":655,"y":427},{"x":79,"y":429}]},{"type":1,"prob":99,"string":"φ(y)","option":"","pos":[{"x":655,"y":394},{"x":734,"y":394},{"x":734,"y":434},{"x":655,"y":434}]},{"type":1,"prob":99,"string":"之间的关系式;","option":"","pos":[{"x":734,"y":394},{"x":975,"y":393},{"x":975,"y":425},{"x":734,"y":426}]}]},{"type":0,"text":"(2)求曲线x=φ(y)的方程.","pos\_list":[[{"x":78,"y":447},{"x":533,"y":446},{"x":534,"y":485},{"x":78,"y":486}]],"content\_list":[{"type":1,"prob":99,"string":"(2)求曲线","option":"","pos":[{"x":78,"y":450},{"x":260,"y":449},{"x":260,"y":481},{"x":78,"y":482}]},{"type":1,"prob":99,"string":"x=φ(y)","option":"","pos":[{"x":260,"y":447},{"x":408,"y":446},{"x":408,"y":485},{"x":260,"y":485}]},{"type":1,"prob":99,"string":"的方程.","option":"","pos":[{"x":408,"y":449},{"x":533,"y":448},{"x":534,"y":480},{"x":408,"y":480}]}]},{"type":0,"text":"(注:m表示长度单位米, min表示时间单位分.)","pos\_list":[[{"x":81,"y":504},{"x":802,"y":500},{"x":802,"y":532},{"x":81,"y":536}]],"content\_list":[{"type":1,"prob":98,"string":"(注:m表示长度单位米, min表示时间单位分.)","option":"","pos":[{"x":81,"y":504},{"x":802,"y":500},{"x":802,"y":532},{"x":81,"y":536}]}]}]}]},{"part\_title":"十、(本题满分10分)","pos\_list":[[{"x":76,"y":609},{"x":1529,"y":609},{"x":1529,"y":1136},{"x":76,"y":1139}]],"subject\_list":[{"index":0,"type":15,"num\_choices":0,"prob":0,"text":"设函数f(x)在闭区间[a,b]上连续,在开区间(a,b)内可导,且f\'(x)>0.若极限$$\\\\lim \_ { x \\\\to \\\\infty } \\\\frac { f \\\\left( 2 x - a \\\\right) } { x - a }$$在,证明:(1)在(a,b)内f(x)>0;(2)在(a,b)内存在点$$\\\\frac { b ^ { 2 } - a ^ { 2 } } { | f \\\\left( x \\\\right) d x } = \\\\frac { 2 \\\\xi } { f \\\\left( \\\\xi \\\\right) } ;$$(3)在(a,b)内存在与(2)中ξ相异的点η,使$$f \' \\\\left( n \\\\right) \\\\left( b ^ { 2 } - a ^ { 2 } \\\\right) = \\\\frac { 2 5 } { \\\\xi - a } \\\\int \_ { a } ^ { b } f \\\\left( x \\\\right) d x .$$","figure\_list":[],"table\_list":[],"answer\_list":[[{"x":0,"y":656},{"x":1654,"y":656},{"x":1654,"y":2339},{"x":0,"y":2339}]],"pos\_list":[[{"x":57,"y":656},{"x":1568,"y":656},{"x":1568,"y":1139},{"x":57,"y":1139}]],"element\_list":[{"type":0,"text":"设函数f(x)在闭区间[a,b]上连续,在开区间(a,b)内可导,且f\'(x)>0.若极限$$\\\\lim \_ { x \\\\to \\\\infty } \\\\frac { f \\\\left( 2 x - a \\\\right) } { x - a }$$在,证明:","pos\_list":[[{"x":76,"y":656},{"x":1529,"y":656},{"x":1529,"y":791},{"x":76,"y":791}]],"content\_list":[{"type":1,"prob":95,"string":"设函数f(x)在闭区间","option":"","pos":[{"x":78,"y":666},{"x":410,"y":666},{"x":410,"y":730},{"x":78,"y":730}]},{"type":1,"prob":99,"string":"[a,b]","option":"","pos":[{"x":410,"y":679},{"x":504,"y":679},{"x":504,"y":719},{"x":410,"y":719}]},{"type":1,"prob":98,"string":"上连续,在开区间(a,b)内可导,且","option":"","pos":[{"x":504,"y":666},{"x":1037,"y":666},{"x":1037,"y":730},{"x":504,"y":730}]},{"type":1,"prob":99,"string":"f\'(x)>0.","option":"","pos":[{"x":1037,"y":678},{"x":1201,"y":678},{"x":1201,"y":720},{"x":1037,"y":720}]},{"type":1,"prob":99,"string":"若极限","option":"","pos":[{"x":1201,"y":666},{"x":1318,"y":666},{"x":1318,"y":730},{"x":1201,"y":730}]},{"type":2,"prob":98,"string":"$$\\\\lim \_ { x \\\\to \\\\infty } \\\\frac { f \\\\left( 2 x - a \\\\right) } { x - a }$$","option":"","pos":[{"x":1317,"y":657},{"x":1528,"y":656},{"x":1529,"y":743},{"x":1318,"y":744}]},{"type":1,"prob":99,"string":"在,证明:","option":"","pos":[{"x":76,"y":759},{"x":219,"y":758},{"x":219,"y":790},{"x":77,"y":791}]}]},{"type":0,"text":"(1)在(a,b)内f(x)>0;","pos\_list":[[{"x":79,"y":809},{"x":483,"y":807},{"x":483,"y":851},{"x":79,"y":853}]],"content\_list":[{"type":1,"prob":99,"string":"(1)在(a,b)内","option":"","pos":[{"x":79,"y":815},{"x":323,"y":813},{"x":323,"y":846},{"x":79,"y":848}]},{"type":1,"prob":99,"string":"f(x)>0;","option":"","pos":[{"x":323,"y":808},{"x":483,"y":807},{"x":483,"y":851},{"x":323,"y":852}]}]},{"type":0,"text":"(2)在(a,b)内存在点$$\\\\frac { b ^ { 2 } - a ^ { 2 } } { | f \\\\left( x \\\\right) d x } = \\\\frac { 2 \\\\xi } { f \\\\left( \\\\xi \\\\right) } ;$$","pos\_list":[[{"x":78,"y":860},{"x":784,"y":855},{"x":785,"y":967},{"x":79,"y":973}]],"content\_list":[{"type":1,"prob":99,"string":"(2)在(a,b)内存在点","option":"","pos":[{"x":78,"y":887},{"x":434,"y":884},{"x":434,"y":918},{"x":79,"y":921}]},{"type":2,"prob":94,"string":"$$\\\\frac { b ^ { 2 } - a ^ { 2 } } { | f \\\\left( x \\\\right) d x } = \\\\frac { 2 \\\\xi } { f \\\\left( \\\\xi \\\\right) } ;$$","option":"","pos":[{"x":510,"y":859},{"x":784,"y":855},{"x":785,"y":965},{"x":512,"y":969}]}]},{"type":0,"text":"(3)在(a,b)内存在与(2)中ξ相异的点η,使","pos\_list":[[{"x":79,"y":1005},{"x":792,"y":998},{"x":793,"y":1031},{"x":79,"y":1038}]],"content\_list":[{"type":1,"prob":99,"string":"(3)在(a,b)内存在与(2)中ξ相异的点η,使","option":"","pos":[{"x":79,"y":1005},{"x":792,"y":998},{"x":793,"y":1031},{"x":79,"y":1038}]}]},{"type":0,"text":"$$f \' \\\\left( n \\\\right) \\\\left( b ^ { 2 } - a ^ { 2 } \\\\right) = \\\\frac { 2 5 } { \\\\xi - a } \\\\int \_ { a } ^ { b } f \\\\left( x \\\\right) d x .$$","pos\_list":[[{"x":555,"y":1051},{"x":1079,"y":1048},{"x":1080,"y":1136},{"x":555,"y":1139}]],"content\_list":[{"type":2,"prob":96,"string":"$$f \' \\\\left( n \\\\right) \\\\left( b ^ { 2 } - a ^ { 2 } \\\\right) = \\\\frac { 2 5 } { \\\\xi - a } \\\\int \_ { a } ^ { b } f \\\\left( x \\\\right) d x .$$","option":"","pos":[{"x":555,"y":1051},{"x":1079,"y":1048},{"x":1080,"y":1136},{"x":555,"y":1139}]}]}]}]}],"prism\_version":"1.0.9","prism\_wnum":0,"width":1654}', 'RequestId': '82A5AE7F-549C-59F5-9F75-45159FC8C89E'}}