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k>0} ),汽锤第一次击打将桩打进地下a(m).根据设计方案,要求汽锤每次击打桩时所作的功与前一次击打时所作的功之比为常数r(0<r<1)..问(1)汽锤击打桩3次后,可将桩打进地下多深?(2)若击打次数不限,汽锤至多能将桩打进地下多深?(注:m表示长度单位米.)","figure\_list":[],"table\_list":[],"answer\_list":[[{"x":0,"y":1457},{"x":1654,"y":1457},{"x":1654,"y":1955},{"x":0,"y":1955}]],"pos\_list":[[{"x":65,"y":1457},{"x":1580,"y":1457},{"x":1580,"y":1832},{"x":65,"y":1832}]],"element\_list":[{"type":0,"text":"某建筑工程打地基时,需用汽锤将桩打进土层.汽锤每次击打,都将克服土层对桩的阻力而作功.设土层对桩的阻力的大小与桩被打进地下的深度成正比(比例系数为\\\\left.{k, k>0} ),汽锤第一次击打将桩打进地下a(m).根据设计方案,要求汽锤每次击打桩时所作的功与前一次击打时所作的功之比为常数r(0<r<1)..问","pos\_list":[[{"x":76,"y":1475},{"x":1572,"y":1474},{"x":1572,"y":1675},{"x":76,"y":1676}]],"content\_list":[{"type":1,"prob":99,"string":"某建筑工程打地基时,需用汽锤将桩打进土层.汽锤每次击打,都将克服土层对桩的阻力而作功.","option":"","pos":[{"x":77,"y":1475},{"x":1562,"y":1477},{"x":1562,"y":1508},{"x":77,"y":1506}]},{"type":1,"prob":99,"string":"设土层对桩的阻力的大小与桩被打进地下的深度成正比(比例系数为","option":"","pos":[{"x":77,"y":1531},{"x":1149,"y":1530},{"x":1149,"y":1561},{"x":77,"y":1562}]},{"type":1,"prob":98,"string":"\\\\left.{k, k>0} 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{ d ^ { 2 } x } { d y ^ { 2 } } + \\\\left( y + \\\\sin x \\\\right) \\\\left( \\\\frac { d x } { d y } \\\\right) ^ { 3 } = 0$$变换为y=y(x)满足的微分方程;(2)求变换后的微分方程满足初始条件y(0)=$$y \\\\left( 0 \\\\right) = 0 , y \' \\\\left( 0 \\\\right) = \\\\frac { 3 } { 2 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{ d ^ { 2 } x } { d y ^ { 2 } } + \\\\left( y + \\\\sin x \\\\right) \\\\left( \\\\frac { d x } { d y } \\\\right) ^ { 3 } = 0$$变换为y=y(x)满足的微分方程;","pos\_list":[[{"x":78,"y":2011},{"x":1568,"y":2001},{"x":1569,"y":2097},{"x":78,"y":2108}]],"content\_list":[{"type":1,"prob":99,"string":"(1)试将","option":"","pos":[{"x":78,"y":2035},{"x":219,"y":2034},{"x":219,"y":2069},{"x":78,"y":2069}]},{"type":1,"prob":99,"string":"x=x(y)","option":"","pos":[{"x":219,"y":2031},{"x":351,"y":2031},{"x":351,"y":2074},{"x":219,"y":2075}]},{"type":1,"prob":96,"string":"所满足的微分方程","option":"","pos":[{"x":351,"y":2034},{"x":628,"y":2033},{"x":628,"y":2068},{"x":351,"y":2069}]},{"type":2,"prob":99,"string":"$$\\\\frac { d ^ { 2 } x } { d y ^ { 2 } } + \\\\left( y + \\\\sin x \\\\right) \\\\left( \\\\frac { d x } { d y } \\\\right) ^ { 3 } = 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