

Ques\Year	2022	2021	2020	2019	2018	2017
1	accumulation/rate of change, total amounts, ave value, max, min, rates, increasing/dec	tabular data for rate of change/riemann sum right endpoints, over/under estimate	X	accumulation/rate of change, total amounts, ave number, max, min, rates	accumulation/rate of change, total amounts, maximum, minimums	tabular data for rate of change/riemann sum left endpoints, over/under estimate
2	area/volume (calc), but twist with vertical line and moving vertical line	particle motion/velocity/total distance/ displacement, moving same direction, increasing or decreasing speed	X	particle motion, velocity, distance/displacement w/Riemann Sum Trapezoid, distance between 2	particle motion/velocity/total distance v. displacement, moving same direction	accumulation/rate of change, increasing/decreasing, total amounts
3	Derivative Graph with FTC, abs max/min, inflection, values, increasing/dec	area/volume/**this was the tough one - also needed max	X	Derivative Graph with FTC, max & L'Hopital	derivative graph interpretation with FTC, concavity, points of inflection	derivative graph interpretation with FTC, rel/abs max-min
4	tabular data for rate of change/riemann sum right endpoints, VOLUME OF CONE!!!	Derivative Graph with FTC, max & L'Hopital & MVT	X	differential equation/separation of variables NO slope field	tabular data for rate of change/riemann sum trapezoids, rate of change with a new model	differential equation/separation of variables No slope field
5	differential equation/separation of variables with slope field	tangent line with a dy/dx differential	X	area/volume/cross sectional area	slope of tangent, ave rate of change, limits	particle motion/velocity/total distance/acceleration/ moving left-right/speeding up-slowng down

6	particle motion/velocity/acc with 2 particles - which travels farther	differential equation/separation of variables with slope field	X	tangents, derivatives, L'Hopital	differential equation/separation of variables with slope field	Tangent line given a table & Graph, quotient rule, FTC
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Overview of Problems on past AP Calc Exams

2016	2015	2014	2013	2012	2011	2010
tabular data for rate of change/riemann sum left endpoints	accumulation/rate of change/ave rate of change (calc)	accumulation/rate of change/ave rate of change (calc)	accumulation/rate of change (calc)	tabular data for rate of change/riemann sum (left)/average value	particle motion/velocity/total distance (calc)	piecewise accumulation/rate of change (calc)
particle motion/velocity/total distance/acceleration /moving left-right/speeding up-slowing down	area/volume (calc)	area/volume (calc)	particle motion/velocity/total distance/acceleration/ moving left-right/speeding up-slowing down (calc)	area/volume	tabular data for rate of change/riemann sum (trapezoid)/average value (calc)	tabular data for rate of change/riemann sum (trapezoid) (calc)
derivative graph interpretation with FTC, rel/abs max-min, inflection	tabular data for rate of change/riemann sum right endpoints	derivative graph interpretation with FTC	tabular data for rate of change/riemann sum (midpoint)/average value	derivative graph interpretation	area/volume (no calc)	rate graph/accumulation (calc)
differential equation/separation of variables with slope field	differential equation/separation of variables with slope field	tabular data for rate of change/riemann sum trapezoidal & related rates and IVT	derivative graph interpretation	continuity/piecewise/average value/tangent line	derivative graph interpretation	area/volume (NO calc)
Volume of a funnel	derivative graph interpretation with FTC	tabular data for interpretation of derivative, max/min, continuity, MVT	area/volume	differential equation/separation of variables	differential equation/separation of variables	derivative graph interpretation

<p>Tangent line given a table, quotient rule, FTC</p>	<p>tangent line with a dy/dx differential</p>	<p>differential equation/separation of variables with slope field</p>	<p>differential equation/separation of variables</p>	<p>particle motion/velocity/total distance/acceleration/moving left-right/speeding up-slowng down</p>	<p>continuity/piecewise/average value</p>	<p>differential equation/separation of variables/tangent line approximation</p>
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2009	2008	2007	2006	2005
particle motion/velocity/accumulation	area/volume (calc OK)	area/volume	area/volume	area/volume
rate graph/accumulation	tabular data for rate of change/riemann sum (trapezoid)/average value (calc OK)	rate graph/accumulation	rate graph/accumulation	rate function/accumulation
total change/integral rate of change/profit maximization/FTC	related rate/accumulation (calc OK)	tabular data IVT/MVT/FTC	derivative graph interpretation	tabular data for rate of change/riemann sum (trapezoid)/average value
area/volume	particle motion/velocity/accumulation	particle motion/velocity/accumulation	tabular data for rate of change/riemann sum (midpoint)/average value	tan line/max/min/inflection & FTC
tabular data for rate of change/FTC/riemann sum (left approximation)	slope field/separation of variables	tabular data for rate of change/riemann sum (trapezoid)/average value	slope field/separation of variables	rate graph/accumulation

derivative graph interpretation	tan line/max/min/inflection	tan line/max/min/inflection	tangent line & derivatives	slope field/separation of variables
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2004	2003
rate function/accumulation	area/volume
area/volume	particle motion/velocity/accumulation
particle motion/velocity/accumulation	tabular data for rate of change/riemann sum (left)/average value
implicit differentiation	derivative graph interpretation
derivative graph interpretation	related rate/separation of variables

slope field/separation of variables	continuity/piecewise/average value
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