WITHOUT CALCULUS	WITH DIFFERENTIAL CALCULUS
value of $f(x)$ when $x = c$ $y = f(x)$	limit of $f(x)$ as $x$ approaches $c$ $y = f(x)$
slope of a line $\Delta y$	slope of a curve $\frac{dy}{dx}$
secant line to a curve	tangent line to a curve
average rate of change between $t = a$ and $t = b$ $t = a$ $t = b$	instantaneous rate of change at $t = c$ $t = c$
curvature of a circle	curvature of a curve
height of a curve when $x = c$	maximum height of a curve on an interval
tangent plane to a sphere	tangent plane to a surface
direction of motion along a straight line	direction of motion along a curved line

WITHOUT CALCULUS	WITH INTEGRAL CALCULUS
area of a rectangle	area under a curve
work done by a constant force	work done by a variable force
center of a rectangle	centroid of a region
length of a line segment	length of an arc
surface area of a cylinder	surface area of a solid of revolution
mass of a solid of constant density	mass of a solid of variable density
volume of a rectangular solid	volume of a region under a surface
sum of a finite $a_1 + a_2 + \cdots + a_n = S$ number of terms	sum of an infinite $a_1 + a_2 + a_3 \cdots = S$ number of terms